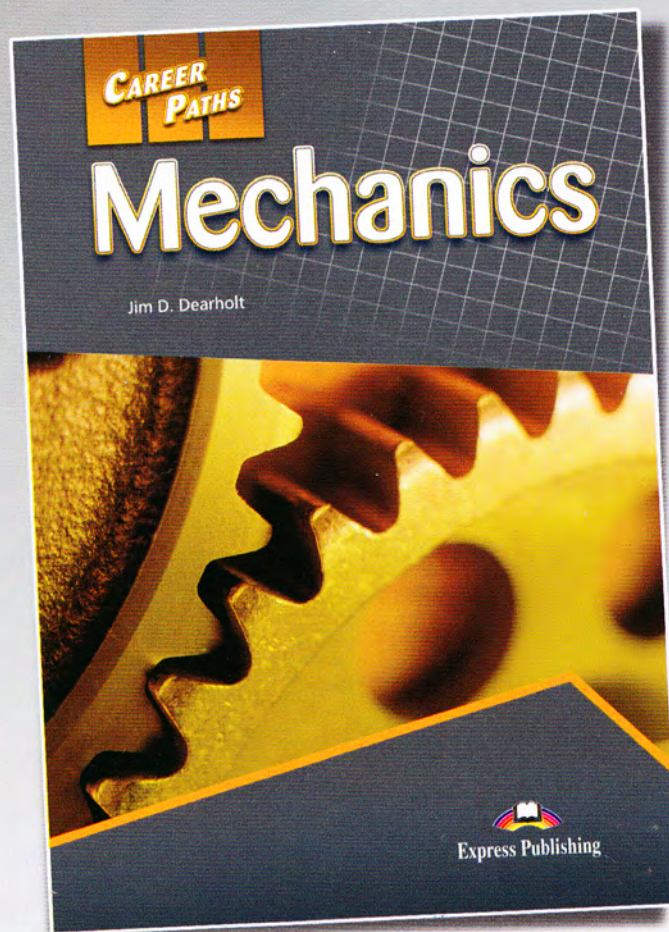


Teacher's Book

Jim D. Dearholt



Express Publishing

**CAREER
PATHS**

Mechanics

Teacher's Book

Jim D. Dearholt



Express Publishing

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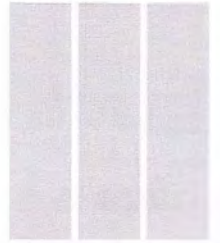
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Unit 1

1 Suggested Answers

- 1 Some common hand tools are: screwdrivers, pliers, wrenches and hammers.
- 2 Hand tools can be used for a variety of repairs and tasks from hammering a nail into the wall to screwing together a frame for a house.

2 1 B 2 A 3 C

3 1 D 2 B 3 E 4 C 5 A

- | | |
|----------------------------|------------------------|
| 4 1 A flathead screwdriver | B Phillips screwdriver |
| 2 A Slip-joint pliers | B Long-nose pliers |
| 3 A claw hammer | B tool kit |

5 Suggested Answer

The column recommends that homeowners buy a tape measure.

6 1 T 2 F 3 T

- | | |
|-------------------------|------------------------|
| 7 1 Good afternoon | 4 We offer |
| 2 over here | 5 recommend purchasing |
| 3 Phillips and flathead | 6 you'll need |

8 Suggested Answer

- A: Good afternoon, welcome to Jen's Hardware.
 B: Hi. Can you tell me where the hand tools are?
 A: Sure. They're right over here. What are you looking for?
 B: Well, I need some Phillips and flathead screwdrivers.
 A: Okay. We offer full sets or individual screwdrivers.
 B: Oh, okay. But I only need a few sizes. What do you recommend?
 A: I recommend just purchasing the ones you need.
 B: Really? Why is that?
 A: It's cheaper than buying a whole set which has lots of sizes you will probably never need.

9 Suggested Answer

Customer name: David Hind

Date of purchase: 2/5/2012

Items purchased: various Phillips and flathead screwdrivers

What did our employee help you with?

your employee helped me to choose the tools I needed at the lowest cost

Was our employee helpful? Y / N

Unit 2

1 Suggested Answers

- 1 A hacksaw can be used for cutting pipes.
- 2 There are many different types of wrenches. They include a ratchet wrench, combination wrench, spanner wrench, Allen wrench and pipe wrench.

2 1 B 2 B 3 A

- 3 1 Tools for cutting: hack saw, hand saw, wire cutter
- 2 Tools for turning: nut driver, socket, spanner wrench

- | | |
|----------------------|--------------------|
| 4 1 Allen wrench | 4 ball pein hammer |
| 2 combination wrench | 5 ratchet wrench |
| 3 pipe wrench | |

5 Suggested Answer

The ratchet wrench comes with a socket set and two socket extensions.

6 1 F 2 T 3 F

- | | |
|--------------------|---------------|
| 7 1 place an order | 4 hand saws |
| 2 pipe wrenches | 5 Do you mean |
| 3 Anything else | 6 hacksaws |

8 Suggested Answer

- A: Handy Hand Tools, how can I help you?
 B: Hi, this is Clare from Jumbo Hardware. I'd like to place an order.
 A: Hi, Clare. What can I put you down for?
 B: I need four pipe wrenches, a ball pein hammer, and box of spanner wrenches.
 A: Okay. Anything else?
 B: Yes. I need two more of the small hand saws with replaceable blades.
 A: Do you mean the hand saws, or the hacksaws?
 B: Oh, hacksaws. Yes. I need two hacksaws.

9 Suggested Answer

Customer name Clare

Date 3/12/2012

Qty	Item
4	pipe wrenches
1	ball pein hammer
Box	spanner wrenches
2	hacksaws

Unit 3

1 Suggested Answers

- 1 In order to mechanically attach two things together you could use screws, nails and nuts and bolts.

2 Nails are fasteners that require a hammer to be used.

2 1 F 2 F 3 T

3 1 F 3 B 5 C 7 G
2 A 4 E 6 D

4 1 A washer B screw
2 A bolt B thread
3 A UTS thread B fastener
4 A wood screw B pin

5 Suggested Answer

Two different types of thread measurement exist, UTS thread and metric thread.

6 1 A 2 C

7 1 so relieved 4 a little stronger
2 the sound of 5 I sure did
3 How did 6 Thank you

8 Suggested Answer

A: All right, Ms. Bracken. I repaired your air conditioner.
B: Oh, I'm so relieved! What was the problem?
A: Well, that rattling you heard was the sound of loose nuts.
B: Really? How did they come loose?
A: The bolts were the wrong grade. The weight of the unit damaged the bolt's thread. You needed something a little stronger.
B: Oh, I see. Did you replace them?
A: I sure did. You have all new bolts, nuts, and washers.
B: That sounds good. Thank you so much.

9 Suggested Answer

Item repaired: air conditioner
Problem with item: loose nuts
Description of repairs: all nuts, bolts and washers were replaced

Unit 4

1 Suggested Answers

1 Some types of power tools are: drills, angle grinders, air ratchets and impact wrenches.
2 An impact wrench is used when working on the wheels of a car.

2 1 F 2 F 3 T

3 1 A 3 C 5 B
2 D 4 F 6 E

4 1 Used to smooth / remove surfaces - sander, angle grinder
2 Used to tighten / loosen nuts or bolts - air ratchet, impact wrench, pneumatic torque wrench

5 Suggested Answer

The air compressor has worn piston rings.

6 1 B 2 D

7 1 Did you 4 half the time
2 you were out 5 impact wrench
3 manual 6 it's similar

8 Suggested Answer

A: Hey, Duane. Did you see our new air ratchet?
B: Morning, Anna. I didn't. So when did we get it?
A: It came in a couple of days ago while you were out. It's great.
B: So you like it more than the manual ratchet?
A: Definitely. It can loosen nuts and bolts much faster. It does the job in half the time.
B: Nice. So it's like the impact wrench?
A: Well, it's similar. But an impact wrench creates more torque. In fact, it could shatter the air ratchet sockets.
B: That's good to know.

9 Suggested Answer

Check out our new air ratchet!
Use it to loosen nuts and bolts.
It can do the job in half the time.

Unit 5

1 Suggested Answers

1 A mechanic uses a lift to inspect the underside of a car.
2 A table saw is used to cut wood.

2 1 F 2 T 3 F

3 1 B 3 E 5 D
2 F 4 A 6 C

4 1 A lift B bearing press
2 A bench grinder B lathe

5 Suggested Answer

A bench grinder features an LED light to help a mechanic see better.

6 1 C 2 A

- 7 1 sharpen some hand tools
2 sander
3 bench grinder
4 coarse
5 sanders are great for
6 I'll take it

8 Suggested Answer

- A: Hello Sir. Is there anything I can help you with?
B: Yes. I need to sharpen some hand tools. I was looking at this sander.
A: Well, that sander does have attachments for grinding. But a bench grinder will work better.
B: A bench grinder. Where are those?
A: Right over here. See, this one has two wheels, one coarse and one fine.
B: This is what I'm looking for.
A: It sure is. Those sanders are great for buffing finishes. But for sharpening tools, you want a grinder.
B: I'll buy it.

9 Suggested Answer

- Carson Bench Grinder
- Two abrasive grinding wheels (one coarse and one fine)
 - Convenient LED work lamp
 - Great for sharpening tools

Unit 6

1 Suggested Answers

- 1 Mechanics use many basic actions when working on parts and machines. These include pulling, lifting, pushing and screwing.
2 Most actions that a mechanic does, except for some visual inspections, require tools. Screwing is one such action.

2 1 B 2 D 3 A

3 1 flip 2 insert 3 screw 4 lift

4 1 Twist 3 Push 5 strip 7 Grip
2 Pull 4 drive 6 remove

5 Suggested Answer

The owner can check the diagram to make sure they put the batteries in correctly.

6 1 ✓ 3 ✓ 5 ✓

- 7 1 how to 4 Then
2 lift up the hood 5 Next
3 What's next 6 I can do that.

8 Suggested Answer

- A: The bulbs for your headlights need to be replaced. I can show you how to do it.
B: That would be really helpful.
A: First, lift up the hood and locate the light bulb holder with the three wires.
B: Okay. What next?
A: Then push on the metal tab and gently unplug the wire housing.
B: That doesn't seem too hard.
A: It's not that difficult. Next, just unscrew the old bulb. Then, insert the new one.
B: Great. I can do that.

9 Suggested Answer

- First, lift up the hood and locate the light bulb holder with the three wires.
Then, push on the metal tab and gently unplug the wire housing.
Next, just unscrew the old bulb and insert the new one.
Finally, test the lights to make sure they work.

Unit 7

1 Suggested Answers

- 1 Steel, cast iron, aluminum, plastic, fiberglass, and leather are some materials used to make a car.
2 Steel and cast iron are strong but very heavy. Plastic and fiberglass are lightweight but not as strong as steel.

- 2 **rubber:** to make tires
cast iron: to make engine blocks
plastic: to make car bodies
glass: to make windows and mirrors

3 1 E 3 A 5 D
2 B 4 C

4 1 A plastic B rubber
2 A steel B aluminum

5 Suggested Answer

Leather is a material that is often used inside expensive cars.

6 1 F 2 T 3 F

- 7 1 made of plastic 4 safety
2 steel 5 steel safety cage
3 weighs less 6 fiberglass

8 Suggested Answer

- A: They sure don't make them like they used to, do they?
B: No, they don't. Most of this car's body is made of plastic.
A: Really? Plastic must be cheaper than steel.
B: It's cheaper and weighs less. Lightweight material means you use less gas.
A: Yeah, but what does it do for safety?
B: Well, there's a steel safety cage around the passenger area.
A: I see. And are these outer panels made of plastic?
B: Yeah. They're made of a combination of fiberglass and plastic.

9 Suggested Answer

- Side panels** fiberglass and plastic
Safety cage steel
Windows glass
Tires rubber

Unit 8

1 Suggested Answers

- 1 When working with numbers we use words like add, subtract, divide and equals.
2 When saying fractions (smaller than one quarter) aloud you should use *ths* as an ending.

- 2 1 T 2 F 3 F

- 3 1 times 3 less 5 add
2 comes to 4 hundred 6 plus

- 4 1 plus 3 subtract 5 equals
2 less 4 multiplied by

5 Suggested Answer

The 'x' symbol is used to multiply two numbers.

- 6 1 B 2 B

- 7 1 Not at the moment 4 five-sixteenths
2 Can you grab 5 would be great
3 No problem 6 You got it

8 Suggested Answer

- A: Hi Bill. Are you busy?
B: Not at the moment. What do you need?

- A: I have my hand on a loose nut. I don't want to let it go. Can you grab some tools for me?
B: No problem. What do you need?
A: Can I get a eight sixteenths combination wrench?
B: Sure. Anything else?
A: Yeah. A seven eighths allen wrench would be great. Thanks.
B: No problem. I'll grab them from the tool box now.

9 Suggested Answer

- 3/16** three sixteenths
3/8 three eighths
7/8 seven eighths
1/4 a/one quarter

Unit 9

1 Suggested Answers

- 1 The metric and imperial systems are used to measure short distances.
2 Weight is measured in pounds.

- 2 1 systems 4 measurements
2 fasteners 5 liters
3 centimeters 6 pounds

- 3 1 H 3 F 5 A 7 B
2 G 4 D 6 C 8 E

- 4 1 caliper 4 millimeters 7 inches
2 metric 5 quarts
3 cubic meter 6 kilograms

5 Suggested Answer

It is important to use the correct measurement system because if you use the incorrect one you can damage tools or the thing that is being worked upon, or even injure yourself.

- 6 1 T 2 F 3 F

- 7 1 having some trouble 4 round off
2 slipping off 5 the wrong one
3 best fit 6 I'll show you

8 Suggested Answer

- A: Juan, are you having some trouble over there?
B: Yeah. My wrench keeps slipping off this bolt.
A: Well, you're using the wrong wrench.
B: Really? It seemed like the best fit.
A: You can't use an imperial wrench with a metric bolt. You could round off the bolt or hurt your hand.

B: I didn't realize I had the wrong one.
A: Come on. I'll show you where we keep the metric wrenches.

9 Suggested Answer

What is being repaired?

A car engine.

Which tools are required?

Wrenches

What is the measurement system?

Metric

Unit 10

1 Suggested Answers

- 1 Mechanics can use a creeper to look under a car on the ground, or raise the car with a lift and then inspect it.
- 2 Mats can be found on the floor.

- 2 1 Close lid
2 Make sure lift is on ground and turned off
3 Bead Blaster
4 Clean floors, including mats

- 3 1 solvent tank 3 creeper 5 computer
2 lift 4 drain 6 fan

- 4 1 pit 5 storage
2 work lamp 6 bead blaster
3 electrical outlet 7 mats
4 printer 8 sink

5 Suggested Answer

A mechanic should put a completed checklist on the secretary's desk.

- 6 1 F 2 T 3 F

- 7 1 what's up 4 fell into
2 that right 5 all my fault
3 put the creepers 6 I promise

8 Suggested Answer

A: Good morning, Martha. Can I talk to you?
B: Hi, Jamil. Sure, what's up?
A: The checklist shows that you closed yesterday. Is that right?
B: Yes. Did I do something wrong?
A: You forgot to clean the floors in the pit.

B: I'm sorry. I was in a hurry to get home.
A: Well, Juan slipped there this morning and fell over.
B: Oh, no! It's all my fault. I'm so sorry.
A: He'll be okay. But that's why we have the checklist. Don't let it happen again.
B: I won't, I promise.

9 Suggested Answer

Lift: turn on

Fans: plug into electrical outlet

Computer/Printer: turn on

Sinks/Drains: check are they unblocked

Solvent tank: open lid

Unit 11

1 Suggested Answers

- 1 Some common types of cars include sports cars, hatchbacks, and coupes.
- 2 The best types of cars for families are probably 4-door cars, although minivans and even full size passenger vans might be appropriate for very large families. For single people in cities a compact or a two-door coupe or hatchback is probably best.

- 2 1 F 2 T 3 F

- 3 1 D 3 C 5 G 7 E
2 B 4 F 6 A

- 4 1 A van B 2-door coupe
2 A SUV B sports car

5 Suggested Answer

2 door coupes and hatchbacks use a low amount of fuel.

- 6 1 B 2 D

- 7 1 How can I 4 three hours away
2 looking for 5 probably need
3 we've got something 6 minivan

8 Suggested Answer

B: Hello there! How can I help you?
A: Hi. I'm looking for a new car, one that my entire family can ride in.
B: I'm sure we've got something for you. How big is your family?
A: It's me, my five kids, and my wife.
B: Big family! Do you all travel in the car?
A: We do. My parents live five hours away from us.

B: Hmm, you probably need some extra space for luggage, too.
 A: We do. The kids pack a lot.
 B: I think a minivan is what you need. Let me show you one.

9 Suggested Answer

Date: 4/26/2011

Reason for visiting: looking to find a new family car

Name of employee that helped you: Laura Zane

Was our employee helpful? Y / N

How did he or she help? Ms Zane showed us a number of suitable vehicles

Unit 12

1 Suggested Answers

- 1 Some exterior parts of a car include the bumpers, the doors, the fenders, and the various lights at the front and back of a car.
- 2 Sports cars often have spoilers.

2 1 D 2 A 3 B

- 3 1 Front of car: grill, headlight, hood
- 2 Rear of car: brake light, taillight, spoiler
- 3 Side of car: fender, door

- 4 1 windshield 3 bumper
- 2 mirrors 4 wipers

5 Suggested Answer

A mechanic should check how much gas a car engine has in it.

6 3 ✓ 4 ✓

- 7 1 there's a crack 4 it looks like
- 2 wipers okay 5 anything else
- 3 passenger door 6 that's it

8 Suggested Answer

A: Do you have the checklist?
 B: Yes, I do.
 A: Okay, the hood and bumpers are fine. I see a crack in the windshield.
 B: Okay cracked windshield. Are the fenders okay?
 A: Yeah, they look fine.
 B: Great. How is the spoiler?
 A: That's fine, too. But I see a dent in the passenger door.
 B: Is there any damage to the paint?
 A: Yes, it looks like some paint got scratched off.

B: Okay, scratched paint. Can you see anything else?
 A: I think that's it.

9 Suggested Answer

List damage, if any, to the following parts:

Fenders: some paint scratched off

Windshield: minor damage

Doors: passenger door is dented

Lights: no damage

Unit 13

1 Suggested Answers

- 1 Specially designed seats, for example bucket seats, provide comfort for drivers. Mirrors can be adjusted electronically. Controls are placed in easy to reach locations so that the driver doesn't have to make a big effort to use a car's features.
- 2 Parts included inside cars for safety include seat belts and door locks.

2 1 F 2 T 3 T

- 3 1 A handle B bucket seat
- 2 A bench seat B door panel
- 3 A lock B knob
- 4 A window switch B shifter

- 4 1 knob 4 seat belt
- 2 rearview mirror 5 console
- 3 steering wheel

5 Suggested Answer

The car is designed to be easy to use and comfortable to drive and travel in.

6 1 D 2 D

- 7 1 make an appointment 4 That's no good
- 2 What's wrong 5 bring it in
- 3 locks and handles 6 drop it off

8 Suggested Answer

B: Jimmy's Repair Shop, this is Ellen speaking. How can I help you?
 A: Hi Ellen, my name is Peter. Can I make an appointment for you to look at my car today?
 B: Sure, Peter. What's wrong with it?
 A: Well, the controls on the door panels don't work.
 B: That's no good. But we can fix it.
 A: Thanks. So, when can I bring it in?
 B: How about you drop it off at ten this morning?
 A: Great, I'll see you then.

9 Suggested Answer

Date: 9/10/2012

Time	Client	Problem
10:00	Peter	broken controls on door panels
12:00	Halle	broken mirror
2:00	Anton	oil change

Unit 14

1 Suggested Answers

- Car dashboards include a number of gauges and dials (although many modern cars now feature all electronic dashboards that show the same information on screens). Speedometers, fuel gauges, and odometers are the main ones.
- When driving, most people check their speedometer and fuel gauge most often.

2 1 F 2 T 3 T

3 1 B 2 E 3 A 4 C 5 D

- | | |
|---------------------|----------------------|
| 4 1 measures | 4 speedometer |
| 2 temperature gauge | 5 instrument cluster |
| 3 fuel gage | 6 odometer |

5 Suggested Answer

The purpose of the column is to show drivers how to drive safely and more cheaply.

6 1 B 2 B

- | | |
|---------------------|------------------|
| 7 1 brings you | 4 run the engine |
| 2 almost overheated | 5 the tachometer |
| 3 pretty high | 6 under the hood |

8 Suggested Answer

- A: What brings you in today, Mrs. Gustafferson?
 B: My car almost overheated a few times this week.
 A: I see. Does it happen only on long drives?
 B: No, my drive to work is only fifteen minutes long. But the temperature gauge gets pretty high in that time.
 A: Okay. And do you run the engine hard?
 B: No, I'm trying to save gas. So I make sure the tachometer stays below four thousand.
 A: Okay, I'll take a look under the hood and see what I can find.

9 Suggested Answer

Date: 4/1/12

Customer: Mrs. Gustafferson

Type of car: Volvo Year: 2009

Problem: car overheats, even on short journeys

Meter Readings: temperature gauge indicates engine is close to overheating

Unit 15

1 Suggested Answers

- A lug wrench and a jack are used to change a tire.
- When a car has a flat tire it needs to be changed.

2 1 F 2 T 3 F

3 1 C 2 A 3 D 4 E 5 B

- | | | |
|----------------|----------|---------|
| 4 1 lug wrench | 3 tire | 5 Block |
| 2 crank | 4 Loosen | |

5 Suggested Answer

The final step in changing a tire is to tighten the lug nuts completely.

6 1 C 2 B

- | | |
|-------------------|-------------------|
| 7 1 never changed | 4 spare tire |
| 2 piece of cake | 5 lug wrench |
| 3 make sure | 6 block the tires |

8 Suggested Answer

- B: I'm glad you're here. I've never changed a tire before.
 A: Don't worry. It's a piece of cake.
 B: Great. How do we start?
 A: Well, let's make sure we have everything we need first.
 B: Okay. I've got a spare tire in the trunk. What else do we need?
 A: Just the jack and a lug wrench.
 B: Those are in the trunk, too.
 A: Do you have something to block the tires too?
 B: I'm afraid not, sorry.

9 Suggested Answer

Items needed	How each item is used
Lug wrench	used to remove and re-tighten lug bolts
Jack	used to elevate car to enable wheels to be removed
Tire blocks (optional)	used to ensure car cannot move accidentally while jacked up

Unit 1

Sales Associate (F): Good afternoon, welcome to Bob's Hardware.

Customer (M): Hi. Can you tell me where the hand tools are?

Sales Associate: Sure. They're right over here. What are you looking for?

Customer: Well, I need some Phillips and flathead screwdrivers.

Sales Associate: Okay. We offer full sets or individual screwdrivers.

Customer: Oh, okay. But I only need a few sizes. What do you recommend?

Sales Associate: I recommend purchasing a full set.

Customer: Really? Why is that?

Sales Associate: It's cheaper than buying them separately. Plus, you'll need the sizes some day.

Unit 2

Employee (F): Grasser Hand Tools, how can I help you?

Customer (M): Hi, this is Tom from Russet Hardware. I'd like to place an order.

Employee: Hi, Tom. What can I put you down for?

Customer: Well, I need five pipe wrenches, a case of Allen wrench sets, and a box of spanner wrenches.

Employee: Okay. Anything else?

Customer: Yes. I need three more of the small hand saws with replaceable blades.

Employee: Do you mean the hand saws, or the hacksaws?

Customer: Oh, hacksaws. Yes. I need three hacksaws.

Unit 3

Mechanic (F): All right, Mr. Zane. Your air conditioner is fixed.

Customer (M): Oh, I'm so relieved! What was the problem?

Mechanic: Well, that rattling you heard was the sound of loose nuts.

Customer: Really? How did they come loose?

Mechanic: The bolts were the wrong grade. The weight of the unit damaged the bolt's thread. You needed something a little stronger.

Customer: Oh, I see. Did you replace them?

Mechanic: I sure did. You have all new bolts, nuts, and washers.

Customer: That sounds good. Thank you so much.

Unit 4

Mechanic 1 (M): Hey, Laura. Did you see our new air ratchet?

Mechanic 2 (F): Morning, Joe. I didn't. When did we get it?

Mechanic 1: It came in yesterday while you were out. It's great.

Mechanic 2: I see. So you like it more than the manual ratchet?

Mechanic 1: Definitely. It can loosen nuts and bolts much faster. It does the job in half the time.

Mechanic 2: Nice. So it's like the impact wrench?

Mechanic 1: Well, it's similar. But an impact wrench creates more torque. In fact, it could shatter the air ratchet sockets.

Mechanic 2: That's good to know.

Unit 5

Salesman (M): Hello Ma'am. Is there anything I can help you with?

Customer (F): Yes. I need to sharpen some hand tools. I was looking at this sander.

Salesman: Well, that sander does have attachments for grinding. But a bench grinder will work better.

Customer: A bench grinder. Where are those?

Salesman: Right over here. See, this one has two wheels, one coarse and one fine.

Customer: This is what I'm looking for.

Salesman: I agree. Those sanders are great for buffing finishes. But for sharpening tools, you want a grinder.

Customer: I'll take it.

Unit 6

Mechanic (M): The bulbs for your headlights need to be replaced. I can show you how to do it.

Customer (F): That would be great.

Mechanic: First, lift up the hood and locate the light bulb holder with the three wires.

Customer: Okay. What's next?

Mechanic: Then, push on the metal tab and gently unplug the wire housing.

Customer: That looks easy enough.

Mechanic: It's not too difficult. Next, just unscrew the old bulb. Then, insert the new one.

Customer: Great. I can do that.

Unit 7

Mechanic 1 (F): They sure don't make them like they used to, do they?

Mechanic 2 (M): No, they don't. Most of this car's body is made of plastic.

Mechanic 1: No kidding? Plastic must be cheaper than steel.

Mechanic 2: It's cheaper and weighs less. Lightweight material improves fuel efficiency.

Mechanic 1: Yeah, but what does it do for safety?

Mechanic 2: Well, there's a steel safety cage around the passenger area.

Mechanic 1: I see. And are these outer panels made of fiberglass?

Mechanic 2: Yeah. They're made of a combination of fiberglass and plastic.

Unit 8

Mechanic 1 (F): Joe, are you busy?

Mechanic 2 (M): Not at the moment. What do you need?

Mechanic 1: I have my hand on a loose nut. I don't want to let it go. Can you grab some tools for me?

Mechanic 2: No problem. What do you need?

Mechanic 1: Can I get a five sixteenths combination wrench?

Mechanic 2: Sure. Anything else?

Mechanic 1: Yeah. A three eighths wrench would be great. Thanks.

Mechanic 2: You got it. I'll grab them from the tool box now.

Unit 9

Mechanic 1 (F): Joe, are you having some trouble over there?

Mechanic 2 (M): Yeah. My wrench keeps slipping off this bolt.

Mechanic 1: Let's see. Well, you're using the wrong wrench.

Mechanic 2: Really? It seemed like the best fit.

Mechanic 1: You can't use a metric wrench with an imperial bolt. You could round off the bolt or hurt your hand.

Mechanic 2: I didn't realize I had the wrong one.

Mechanic 1: Come with me. I'll show you where we keep the imperial wrenches.

Unit 10

Owner (F): Good morning, Derek. Can I talk to you?

Mechanic (M): Hi, Rachel. Sure, what's up?

Owner: The checklist shows that you closed last night. Is that right?

Mechanic: Yes. Did I do something wrong?

Owner: You forgot to put the creepers against the wall.

Mechanic: I'm sorry. I was in a hurry to get home.

Owner: Well, Juan tripped on them this morning. He fell into the pit.

Mechanic: Oh, no! It's all my fault. I'm so sorry.

Owner: He'll be okay. But that's why we have the checklist. Don't let it happen again.

Mechanic: I won't, I promise.

Unit 11

Car Salesman (M): Hello there! How can I help you?

Customer (F): Hi. I'm looking for a new car, one that my entire family can ride in.

Car Salesman: Well, I'm sure we've got something for you. How big is your family?

Customer: It's me, my four kids, and my husband.

Car Salesman: Big family! Do you all travel in the car?

Customer: We do. My parents live three hours away from us and we often visit them.

Car Salesman: Hmm, you probably need some extra space for luggage, too.

Customer: We do. The kids pack a lot.

Car Salesman: Well, I think a minivan is the choice for you. Let me show you one.

Unit 12

Mechanic 1 (F): Do you have the checklist ready?

Mechanic 2 (M): Yes, go ahead.

Mechanic 1: Okay, the hood and fenders are fine, but there's a crack in the windshield.

Mechanic 2: Cracked windshield. Got it. Are the wipers okay?

Mechanic 1: Yeah, they look fine.

Mechanic 2: Great. How are the lights?

Mechanic 1: They're all right, too. But I see a dent in the passenger door.

Mechanic 2: Is there any damage to the paint?

Mechanic 1: Yes, it looks like some paint got scratched off.

Mechanic 2: Okay, scratched paint. Can you see anything else?

Mechanic 1: I think that's it.

Unit 13

Mechanic (M): Rodney's Repair Shop, this is Saul speaking. How can I help you?

Customer (F): Hi Saul, my name is Peggy. Can I make an appointment for you to look at my car today?

Mechanic: Sure, Peggy. What's wrong with it?

Customer: Well, the locks and handles don't work.

Mechanic: That's no good. But we can fix it.

Customer: Thanks. So, when can I bring it in?

Mechanic: How about you drop it off at two this afternoon?

Customer: Great, I'll see you then.

Unit 14

Mechanic (F): What brings you in today, Mr. Jackson?

Customer (M): Well, my car almost overheated a few times this week.



Mechanic: I see. Does it happen on long drives?

Customer: No, my drive to work is only ten minutes long.
But the temperature gauge gets pretty high in that time.

Mechanic: Okay. And do you run the engine hard?

Customer: Not at all. I'm trying to save gas. So I make
sure the tachometer stays below four thousand.

Mechanic: Okay, I'll take a look under the hood and see
what I can find.

Unit 15

Driver (F): I'm glad you're here. I've never changed a flat
tire before.

Passenger (M): Don't worry. It's a piece of cake.

Driver: Great. How do we start?

Passenger: Well, let's make sure we have everything we
need first.

Driver: Okay. I've got a spare tire in the trunk. What else
do we need?

Passenger: Just the jack and a lug wrench.

Driver: Those are in the trunk, too.

Passenger: Oh, do you have something to block the tires?

Driver: I don't think so, sorry.

Unit 1

1 Suggested Answers

- 1 Pistons are located in the cylinders.
- 2 The main parts of a car's engine are the cylinders and the pistons, which are all housed within the engine block. There are spark plugs as well as valves which supply the engine with fuel.

2 1 T 2 T 3 F

3 1 A 3 B 5 F
2 E 4 C 6 D

4 1 valve 3 cylinder 5 crankshaft
2 sump 4 piston

5 Suggested Answer

An internal combustion engine supplies energy to the rest of a vehicle by transferring the mechanical energy from the pistons to the crankshaft using connecting rods.

6 2 ✓ 4 ✓

7 1 not sure 4 damaged
2 oil leak 5 isn't the problem
3 bad spark plugs 6 how could there be

8 Suggested Answer

A: I'm still not sure what caused the engine to fail.
B: I'm pretty certain that it was an oil leak.
A: Really? I was thinking bad spark plugs.
B: It couldn't be that. Nothing is wrong with the spark plugs, they are just a bit old.
A: Maybe the sump is cracked?
B: The sump isn't the problem.
A: It isn't? So how could there be an oil leak?
B: Look inside the cylinder and tell me what you see.
A: The walls are discolored and damaged. It looks really dirty too.
B: Exactly. Do you have any idea what caused that?
A: My guess is that oil got in there. It has to be the piston rings.
B: Exactly. They wore out and oil leaked into the chamber.

9 Suggested Answer

Parts checked: spark plugs, cylinders, piston rings
Cause determined: Y / N
Describe what you suspect caused the problem: the piston rings wore out and leaked oil into the chamber

Unit 2

1 Suggested Answers

- 1 The main types of fuel for vehicles are diesel and gasoline.
- 2 Fuel ignites in the combustion chamber.

2 1 D 2 B 3 A

3 1 A biodiesel B Clean diesel
2 A heat up B run on
3 A maintenance B durable
4 A Diesel B Gasoline

4 Gasoline and Diesel engines

combustion chamber
compression ratio
fuel injection pump
Diesel engines only
glow plug
precombustion chamber

5 Suggested Answer

Biodiesel is more expensive than regular diesel.

6 1 F 2 T 3 F

7 1 in the first place 4 makes up for
2 fuel efficient 5 Another plus is
3 A downside is 6 in the long run

8 Suggested Answer

A: Welcome to World Autos. What can I do for you?
B: I'm thinking about buying a car with a diesel engine, but I'm a bit unsure.
A: Well, what made you think about diesel engines in the first place?
B: I've heard they're more fuel efficient.
A: That's their main advantage. A downside is that fuel costs more.
B: But the increased fuel efficiency makes up for that, right?
A: Absolutely. Another plus is that diesel engines are more durable.
B: That should save me money on maintenance in the long run.
A: Sure. You don't have to take them to the mechanic as often.
B: That's good, though I am concerned that they're dirty engines.
A: Not the newer ones. Some can even run on biodiesel.

9 Suggested Answer

Type of engine: diesel
Pros: more fuel efficient
Cons: fuel costs more

Unit 3

1 Suggested Answers

- 1 Some small gasoline powered machines include lawn mowers, chainsaws and leaf blowers.
- 2 Small gasoline powered engines differ from larger engines in that they are two-stroke rather than four stroke engines.

- 2 1 fuel sucked into combustion chamber
2 fuel compressed
3 piston goes down and exhaust expelled

- 3 1 A 2 A 3 B 4 A 5 B

- 4 1 two-stroke engine 4 inlet
2 compress 5 cycle
3 fuel-to-oil ratio 6 two-stroke oil

5 Suggested Answer

Two-stroke engines are commonly used in lawn mowers, chainsaws, leaf blowers and other small machines.

- 6 1 D 2 B

- 7 1 Beyond repair 4 My guess is
2 to be sure 5 common problem
3 overusing it 6 fuel-to-oil ratio

8 Suggested Answer

A: So have you had a chance to look at Mrs. Xuang's lawn mower?
B: I just did. My guess is that she pretty much ruined the engine.
A: Really? How did you figure that out?
B: It looks like the pistons are damaged.
A: Beyond repair?
B: I think so. But I'll have to inspect them to be sure.
A: What do you think caused that to happen? Do you think she was overusing it?
B: My guess is that she didn't add enough oil to the fuel.
A: That's a common problem. I wouldn't be surprised if that's it.
B: Yeah. A lot of people forget to use the right fuel-to-oil ratio.

A: Have you called Mrs. Xuang to let her know what happened?

B: Not yet, I want to inspect the pistons first.

9 Suggested Answer

Engine type:
lawnmower ☒
chainsaw ☐
other: ☐

Problem reported by owner:
strange noise ☐
not working ☒
other: ☐

Possible cause: wrong fuel-to-oil ratio
Repairs needed: new pistons

Unit 4

1 Suggested Answers

- 1 A four stroke engine is one that goes through four stages (in cycles) to burn its fuel and deliver power to the rest of a car.
- 2 The intake stroke, the compression stroke, the power stroke, and the exhaust stroke are the four stages.

- 2 1 cylinder 4 ignites
2 intake 5 releases
3 compression 6 exhaust

- 3 1 D 2 B 3 C 4 E 5 A

- 4 1 A intake stroke B intake valve
2 A four-stroke engine B head gasket
3 A power stroke B cylinder head

5 Suggested Answer

Used fuel is removed from an engine by opening the exhaust valve during the exhaust stroke.

- 6 1 A 2 B

- 7 1 it looks like 4 So you're saying
2 contain pressure 5 right mixture
3 seals the engine 6 replace the gasket

8 Suggested Answer

A: Well, Mr. Bernstein, it looks like your car's head gasket is damaged.
B: I don't know much about cars. What does that mean?

- A: The engine has to be sealed during compression to contain pressure.
 B: Okay. What does the gasket have to do with it?
 A: The gasket seals the engine so that no air can escape. That keeps the pressure steady inside.
 B: So you're saying that air is leaking from my engine?
 A: That's right. Without the right mixture of air and fuel, your car doesn't have enough power.
 B: Oh, I see. Is this a serious problem?
 A: It definitely has to be fixed. But I have to replace the gasket.
 B: If that's what it takes, okay. How much will it cost?
 A: Just let me grab the cost estimate.

9 Suggested Answer

Cause of problem: damaged head gasket
 Functions affected: power is reduced
 Repairs needed: replace gasket

Unit 5

1 Suggested Answers

- 1 A battery has both a positive and a negative terminal.
 - 2 Blade fuses and tubular fuses are used in a car's electrical system.
- | | | |
|----------------|---------------|-------------|
| 2 1 products | 4 spark plugs | 7 terminals |
| 2 distributors | 5 customers | |
| 3 systems | 6 charges | |
- 3 1 tubular fuse 4 battery
 - 2 positive terminal 5 fuse box
 - 3 feeler gauge 6 distributor cap
- 4 1 Distributorless 4 charge
 - ignition systems 5 blow
 - 2 gap 6 negative terminals
 - 3 burned-out 7 blade fuse

5 Suggested Answer

Car Genius guides are used to identify positive and negative terminals on car batteries.

- 6 1 T 2 F 3 F

- | | |
|--------------------|-----------------|
| 7 1 I'm trying | 4 wrong type |
| 2 burned-out fuse | 5 made out of |
| 3 anything like it | 6 tubular fuses |

8 Suggested Answer

A: Thanks for calling Awesome Autos. Can I help you?
 B: I'm trying to order a new fuse for my vehicle on your website. But I can't find the right one.

- A: I can certainly help you find the right fuse. Do you have your burned-out fuse with you?
 B: Yes, I do. It says it's a 13A, but none of the pictures look anything like it.
 A: You might be looking at the wrong type. Is your fuse plastic with two metal blades?
 B: Yes, but all the fuses in these pictures are made out of glass.
 A: You're on the page for tubular fuses. You need to click on the link for blade fuses.

9 Suggested Answer

Customer's problem: can't find the right fuse
 Cause of problem: customer was looking at the wrong types of fuse
 Was the problem resolved? Y / N
 If yes, how was the problem resolved? Customer was directed to click the link to go to the right webpage

Unit 6

1 Suggested Answers

- 1 A car is started by inserting the key into the ignition switch and turning it.
 - 2 One way to start the car is to jump start it.
- 2 1 F 2 F 3 T
- | | |
|-----------------|-------------------|
| 3 1 A turn over | B charge |
| 2 A key | B charging system |
- | | |
|-----------------|--------------|
| 4 1 jump start | 4 alternator |
| 2 clicking | 5 turn over |
| 3 starter relay | 6 ground |

5 Suggested Answer

The battery is likely dead when the lights don't work and the engine is silent.

- 6 1 D 2 C

- | | |
|---------------------|------------------|
| 7 1 but do you have | 5 clicking sound |
| 2 and so do | 6 at all |
| 3 turn the key | 7 It's probably |
| 4 turn over | |

8 Suggested Answer

A: Let's see if we can find out what's wrong.
 B: Oh, great. Thank you.
 A: First of all, do you have gas in the tank?
 B: Yes, I filled the tank last night.
 A: Okay. When the key is on, can you turn the lights on?

- B: Yes, the lights work, and so do the wipers.
 A: Good, that means the battery has some charge.
 What happens when you turn the key?
 B: Nothing.
 A: Does the engine turn over?
 B: No, not at all.
 A: Does the engine make a clicking sound?
 B: No, there's no sound at all.
 A: It's probably the ignition switch or the starter. You'd better have the car towed in so we can have it properly diagnosed.

9 Suggested Answer

Customer: Tony Copeland
 Problem with car: engine doesn't start
 Describe symptoms: when the key is on the lights and wipers work but there's no sound from the ignition switch or starter
 Likely cause of problem: faulty ignition switch

Unit 7

1 Suggested Answers

- 1 Some parts of an automobile fuel system are the filters, the pump, and the fuel tank. Older cars also have carburetors.
- 2 Fuel filters screen out dirt and rust from the fuel.

2 1 F 2 T 3 T

3 1 D 2 A 3 C 4 B 5 E

- 4 1 fuel filter
- 2 air filter
- 3 cold air collection box
- 4 fuel system
- 5 gasoline direct injection

5 Suggested Answer

The problem wasn't discovered earlier as the car had not been serviced since it was purchased.

6 1 C 2 B

- | | |
|------------------|------------------|
| 7 1 I'm sorry | 4 just one issue |
| 2 why so much | 5 I'm afraid so |
| 3 cost that much | 6 rust damage |

8 Suggested Answer

A: Mr. Miller, We've finished the inspection of your fuel system.
 B: Oh, good. So, how does it look?

- A: Not good. Your car needs a lot of work. I'm sorry, but it's going to be pretty expensive.
 B: Why? What's wrong with my car?
 A: Well, the fuel system has big problems. There's a fuel leak. Some of the fuel lines need to be replaced.
 B: Still, a few hoses can't cost that much money, can they?
 A: The hoses are just one issue.
 B: There are more problems?
 A: I'm afraid so. The fuel tank has some serious rust damage. I think it's dangerous to leave in.
 B: Are new tanks expensive?
 A: They're not cheap. And the time for the repairs will cost money too.

9 Suggested Answer

Parts Checked: fuel system
 Problems: broken fuel line, rusted fuel tank
 Recommended repairs: replace hoses and fuel tank

Unit 8

1 Suggested Answers

- 1 Drivers ensure the oil in their engines is up to standard by regularly changing the oil.
- 2 A grease gun is used to grease car parts.

2 1 F 2 F 3 T

3 1 B 2 D 3 E 4 C 5 A

- | | | |
|------------------|--------------|----------|
| 4 1 oil pressure | 3 oil filter | 5 reduce |
| 2 grease gun | 4 lubricate | 6 heat |

5 Suggested Answer

Changing an engine's oil at home could damage it because a mistake could create heat and friction in the engine.

6 1 C 2 D

- | | |
|--------------------|---------------|
| 7 1 do what we can | 4 replaced |
| 2 sounds good | 5 get through |
| 3 oil filter | 6 Fair enough |

8 Suggested Answer

B: Yes, hello. I'm Karl Jenkins. You're already done? That was quick.
 A: Thanks, we do what we can. Let me just review what we did and we can send you on your way.
 B: Okay, sounds good.

- A: First, we drained the oil and replaced it. Then, I changed the oil filter and lubricated the steering and suspension system.
 B: My oil filter was replaced at my last oil change. Was it really necessary to do it again?
 A: For sure. It was pretty dirty. If it gets too full of dirt, oil won't get through. And that can destroy an engine. Really, the oil filter needs to be replaced at every oil change.
 B: Okay.
 A: Of course, I can put a note on your account if you want us to check with you next time.
 B: Yes, please.
 A: No problem. I'll update it right now.

9 Suggested Answer

Tasks completed: drained and replaced oil, changed oil filter, lubricated steering and suspension system
 Items replaced: oil filter
 Reason for replacement: needs to be replaced regularly to ensure oil gets through
 Other notes: put check on account to ask customer if they want to change filter at next oil change

Unit 9

1 Suggested Answers

- 1 Gases that leave an engine are transported out of the car by the exhaust system.
- 2 A tailpipe, muffler, and exhaust manifold are some parts of a car exhaust system.

2 1 T 2 F 3 T

3 1 C 2 B 3 D 4 A 5 E

- 4 1 A exhaust pipe B catalytic converter
 2 A muffler B tailpipe

5 Suggested Answer

The company will carry out visual inspections without charging a customer.

6 1 D 2 B

- 7 1 sure did 3 Basically 5 running the tests
 2 PCV valve 4 clean it out 6 does the trick

8 Suggested Answer

- B: So you found out why my car was failing the emissions test?
 A: We sure did. It turned out to be your PCV valve.
 B: Sorry, what's that?

- A: It controls the amount of gases returning to the cylinder to be burned. Basically, it's a device used to lower your emissions.
 B: Oh, okay. So did you just clean it?
 A: Well, we unclogged it and ran the diagnostics again, but there wasn't much improvement.
 B: Oh that's not good.
 A: It's okay. We installed a new valve and are running the tests one more time.
 B: Ok. I hope the new valve does the trick. I really need my car to pass the emissions test.
 A: Don't worry. I'm sure the new valve will improve your emissions significantly.

9 Suggested Answer

Customer: Miguel Martinez
 Problem: failed emissions test
 Description of services: cleaned PCV valve and ran diagnostic tests
 Parts Required: new PCV valve

Unit 10

1 Suggested Answers

- 1 An engine is kept cool with its cooling system. A radiator and fan are two parts of a cooling system.
- 2 A serpentine belt powers the water pump.

2 1 A 2 D 3 C

3 1 C 3 E 5 B 7 G
 2 D 4 F 6 A

- 4 1 A lower radiator hose
 B upper radiator hose
 2 A boil
 B freeze
 3 A coolant
 B thermostat
 4 A coolant recovery system
 B water pump

5 Suggested Answer

A car's fan does not need liquid to operate.

6 1 F 2 T 3 T

- 7 1 got some bad news 4 water pump
 2 big one 5 Not exactly
 3 replace it 6 bad leak

8 Suggested Answer

- A: Oh, Mr. Ainsworth. I've got some bad news for you. Your car overheated because the cooling system failed.
- B: Oh no. What happened?
- A: Well, there are two problems. The big one is that the radiator is cracked.
- B: Really? That's bad, isn't it?
- A: Unfortunately, yeah. We'll need to replace it.
- B: I see. I guess if that's what has to happen, okay. Now, you said there were two problems?
- A: That's right. Actually, it's this other problem that caused the damage to the radiator. It's your water pump.
- B: It's broken, too?
- A: Not exactly. It's just got a very bad leak.

9 Suggested Answer

Customer: Mr. Ainsworth
Reason for bringing in car: car overheated
Problem: failed cooling system
Work/Repairs needed: replace radiator and water pump

Unit 11

1 Suggested Answers

- Most modern cars use disc brakes and drum brakes.
- A driver presses his or her foot on the break pedal to activate the brakes.

2 1 T 2 F 3 T

3 1 B 3 G 5 H 7 A 9 I
2 E 4 C 6 G 8 F

- 4 1 A brake booster B brake line
2 A brake fluid B brake system
3 A anti-lock braking system B hydraulic brake

5 Suggested Answer

The company offers detailed inspections and diagnostics for anti-lock braking systems.

6 1 F 2 F 3 F

- 7 1 are we looking at 4 ABS sensor
2 looks like 5 What's after
3 first appointment 6 busted brake line

8 Suggested Answer

- A: Good morning, Sally. What are we looking at today?
- B: Morning, Andy. It looks like a busy morning, but the afternoon will be slow.

- A: When's the first appointment?
- B: It's at nine.
- A: Okay, and what are we doing for them?
- B: That one's a brake shoe replacement.
- A: That's not too bad. What's after that?
- B: At ten, a busted brake line is being towed in. We're replacing the whole thing.

9 Suggested Answer

Date:

Time	Repairs/Work
9:00	brake shoe replacement
10:00	replace broken brake line

Unit 12

1 Suggested Answers

- Drivers direct a car by turning the steering wheel which is connected to the rest of the steering system.
- The steering shaft connects the steering wheel to the rest of the steering system.

2 1 F 2 T 3 F

3 1 E 2 C 3 D 4 A 5 B

- 4 1 tie rod 4 steering wheel
2 power steering pump 5 steering system
3 pinion

5 Suggested Answer

Power steering systems are helpful as they make steering a car much easier.

6 1 C 2 A

- 7 1 steering wheel 4 out of fluid
2 all my strength 5 I'd bet you have
3 saw a spot 6 not a big deal

8 Suggested Answer

- B: When I try to turn it, the steering wheel is really stiff.
- A: So it takes a lot of work to turn it?
- B: Yeah. I have to use all my strength.
- A: Have you noticed any leaks?
- B: I did see some liquid on the garage floor this morning.
- A: Well, you could be out of fluid. When there's no fluid, it's really hard to turn the steering wheel. I'd bet you have a leak.
- B: Is that hard to fix?
- A: Not usually. But let's get your car on the lift and have a look.

9 Suggested Answer

Client: Lucy Sangere

Problem: steering

Symptoms/Signs: steering wheel is very stiff

Likely cause: fluid leak

Unit 13

1 Suggested Answers

- 1 A car's suspension system is designed to make traveling in a car safer and more comfortable for the driver and passengers. It also protects the car from being damaged by poor roads.
- 2 Shock absorbers, stabilizer bars, leaf springs, coil springs, and ball joints are parts of a car's suspension system.

2 1 F 2 F 3 T

3 1 B 2 E 3 C 4 A 5 D

- | | |
|----------------|------------------------------|
| 4 1 air spring | 3 MacPherson strut |
| 2 leaf spring | 4 double-wishbone suspension |

5 Suggested Answer

The Top Speed professional racing team won a sporting event using ACME suspension.

6 1 C 2 B

- | | |
|------------------|--------------------|
| 7 1 I'm stumped | 4 step-by-step |
| 2 the suspension | 5 MacPherson strut |
| 3 shakes a lot | 6 coil springs |

8 Suggested Answer

A: Hannah, I'm stumped. I'm not sure what's wrong with the car. I think it's the suspension.

B: Well, what's wrong with it?

A: The customer said it shakes a lot on bumpy roads.

B: Okay, I'd agree that it's a suspension problem. So let's go step-by-step. What kind of suspension does it have?

A: It's a Macpherson strut system.

B: All right, then you need to start by checking the coil springs and shock absorbers.

9 Suggested Answer

Problem with car: shakes on bumpy roads

Type of suspension: Macpherson

Order of items checked:

- 1 coil springs
- 2 shock absorbers
- 3 air spring

Unit 14

1 Suggested Answers

- 1 A front-wheel drive and a four-wheel drive have different transmission systems.
- 2 A driver uses the gear shift to change gear.

2 1 F 2 F 3 T

3 1 A 3 B 5 C
2 D 4 E 6 F

- | | |
|--------------------|-----------------------|
| 4 1 gear shift | 4 front-wheel drive |
| 2 clutch | 5 transmission system |
| 3 four-wheel drive | 6 Transmission fluid |

5 Suggested Answer

When a clutch grinds when it is used, this problem is likely caused by damaged or worn out synchronizers.

6 1 B 2 A

- | | |
|----------------------------|---------------|
| 7 1 manual or an automatic | 4 bring it in |
| 2 And how old | 5 right away |
| 3 worn out | 6 in a hurry |

8 Suggested Answer

A: Can you tell me what's happening?

B: Well, whenever I shift gears, I hear a loud grinding noise.

A: Hmm, sounds like a transmission system problem. Do you have a manual or an automatic transmission?

B: It's a manual transmission.

A: And how old is your car?

B: It's about 7 years old.

A: Well, it's possible for the synchronizers to get worn out in that time. I suspect that's the problem.

B: I was afraid of that. So, can I bring it in next week?

A: Actually, I'd recommend that you bring it in right away. These things can get worse in a hurry.

B: Got it. Is there a good time?

A: How about two this afternoon?

B: Sure, see you then.

9 Suggested Answer

Customer name: Harry Tranter

Appointment time: 2pm

Type of transmission: manual

Explain problems: loud grinding noise when shifting gears

Possible repairs: replace synchronizer

Unit 15

1 Suggested Answers

- 1 A U-joint is two connected hinges.
- 2 A CV boot protects CV joints.

2 1 C 2 B 3 B

3 1 C 3 D 5 B
2 A 4 E 6 F

4 1 transmits 3 clunk 5 hinges
2 CV joints 4 U-joints 6 couplings

5 Suggested Answer

If a car's joints fail the driver would lose control of the vehicle.

6 1 F 2 F 3 T

7 1 knocking 4 Probably not
2 just like I thought 5 can you fix
3 CV joint 6 beyond repair

8 Suggested Answer

A: Oh, hi. Yes, well, I've figured out what was causing that knocking sound.

B: Oh, good. What was it?

A: It's just like I thought. It's the U joint.

B: I see. Did I cause the damage somehow?

A: Probably not. It can happen after a lot of driving.

B: Okay. So can you fix it? Or will you have to replace it?

A: It's beyond repair, so we'll have to replace it.

9 Suggested Answer

Mechanic name: Carlos Lopez

Problem reported: knocking sound

Cause: damaged U joint

Repairs needed: U joint to be replaced

Audioscripts

Unit 1

Mechanic 1 (F): I'm still not sure what caused the engine to fail.

Mechanic 2 (M): I'm pretty certain that it was an oil leak.

Mechanic 1: Really? I was thinking bad spark plugs.

Mechanic 2: It couldn't be that. The spark plugs are old, but they aren't damaged.

Mechanic 1: So the sump is cracked?

Mechanic 2: The sump isn't the problem.

Mechanic 1: It isn't? But then how could there be an oil leak?

Mechanic 2: Look inside the cylinder and tell me what you see.

Mechanic 1: The walls are discolored and damaged. It looks really dirty too.

Mechanic 2: Exactly. Do you have any idea what caused that?

Mechanic 1: My guess is that oil got in there. Ah, so it was the piston rings.

Mechanic 2: Exactly. They wore out and oil leaked into the chamber.

Unit 2

Salesperson (F): Welcome to Auto World. What can I do for you?

Buyer (M): I'm thinking about buying a car with a diesel engine, but I'm not sure if it's for me.

Salesperson: Well, what attracted you to diesel engines in the first place?

Buyer: I've heard they're more fuel efficient.

Salesperson: That's their main advantage. A downside is that fuel costs more.

Buyer: But the increased fuel efficiency makes up for that, right?

Salesperson: Absolutely. Another plus is that diesel engines are more durable.

Buyer: That should save me money on maintenance in the long run.

Salesperson: Exactly. You don't have to take them to the mechanic as often.

Buyer: That's good, though I am concerned about one thing. Aren't they dirty engines?

Salesperson: Not the newer ones. Some can even run on biodiesel.

Unit 3

Mechanic 1 (F): So have you had a chance to look at Mr. Allen's chainsaw?

Mechanic 2 (M): I just did. My guess is that he pretty much ruined the engine.

Mechanic 1: Really? How did you figure that out?

Mechanic 2: It looks like the pistons are damaged.

Mechanic 1: Beyond repair?

Mechanic 2: I think so. But I'll have to inspect them to be sure.

Mechanic 1: What do you think caused that to happen? Do you think he was overusing it?

Mechanic 2: My guess is that he didn't add enough oil to the fuel.

Mechanic 1: That's a common problem. I wouldn't be surprised if that's it.

Mechanic 2: Yeah. A lot of people forget to use the right fuel-to-oil ratio.

Mechanic 1: Have you called Mr. Allen to let him know what happened?

Mechanic 2: Not yet, I want to inspect the pistons first.

Unit 4

Mechanic (M): Well, Ms. Wheaton, it looks like your car has a damaged head gasket.

Customer (F): I don't know much about cars. What does that mean?

Mechanic: The engine has to be sealed during compression to contain pressure.

Customer: Okay. So what does the gasket have to do with it?

Mechanic: The gasket seals the engine so that no air can escape. That keeps the pressure steady inside.

Customer: So you're saying that air is leaking from my engine?

Mechanic: That's right. Without the right mixture of air and fuel, your car doesn't have enough power.

Customer: Oh, I see. Is this a really serious problem?

Mechanic: It definitely has to be fixed. But I have to replace the gasket.

Customer: If that's what it takes, okay. Do you know how much it will be?

Mechanic: Yeah. Just let me grab the cost estimate.

Unit 5

Representative (F): Thanks for calling Car Genius. Can I help you?

Customer (M): Yes, I'm trying to order a new fuse for my vehicle on your website, but I can't find the right one.

Representative: I can certainly help you find the right fuse. Do you have your burned-out fuse with you?

Customer: Yes, I do. It says it's a 15A, but none of the pictures look anything like it.

Representative: You might be looking at the wrong type. Is your fuse plastic with two metal blades?

Customer: Yes, but all the fuses in these pictures are made out of glass.

Representative: You're on the page for tubular fuses. You need to click on the link for blade fuses.
Customer: Blade fuses? Okay, now I see the right type. Thank you for clearing that up.
Representative: It was my pleasure. Call us anytime if you have any further questions.

Unit 6

Mechanic (F): Charlie's Garage. How can I help you?
Customer (M): Hi, I might need to have my car towed in. It just won't start.
Mechanic: Well, sometimes that's an easy fix that doesn't require bringing it in. Let's see if we can find out what's wrong.
Customer: Oh, great. Thank you.
Mechanic: First, I know this sounds silly, but do you have gas in the tank?
Customer: Yes, I filled the tank last night.
Mechanic: Okay. When the key is turned, can you switch the radio on?
Customer: Yes, the radio works, and so do the lights.
Mechanic: Good, that means the battery has some charge. What happens when you turn the key?
Customer: Nothing.
Mechanic: Does the engine turn over?
Customer: No, not at all.
Mechanic: Does the engine make a clicking sound?
Customer: No, there's no sound at all.
Mechanic: It's probably the ignition switch or the starter. You'd better have the car towed in so we can have it properly checked.

Unit 7

Mechanic (M): Ms. Clark, we've finished the inspection of your fuel system.
Customer (F): Oh, good. So, how does it look?
Mechanic: Not good. Your car needs a lot of work. I'm sorry, but the estimate looks pretty expensive.
Customer: Wow, why so much? What's wrong with my car?
Mechanic: Well, the fuel system has big problems. There's a fuel leak. Some of the fuel lines need to be replaced.
Customer: Still, a few hoses can't cost that much money, can they?
Mechanic: The hoses are just one issue.
Customer: There are more problems?
Mechanic: I'm afraid so. The fuel tank has some serious rust damage. I think it's dangerous to leave it in.
Customer: Are new tanks expensive?
Mechanic: They're not cheap. And the time for the repairs will cost money too.

Unit 8

Mechanic (M): Hello, Ms. Hanson? Your car is all set.
Customer (F): Yes, hello. I'm Karen Hanson. You're already done? That was quick.
Mechanic: Thanks, we do what we can. Let me just review what we did and we can send you on your way.
Customer: Okay, sounds good.
Mechanic: First, we drained the oil and replaced it. Then, I changed the oil filter and lubricated the steering and suspension system.
Customer: Hmm. My oil filter was replaced at my last oil change. Was it really necessary to do it again?
Mechanic: Oh, absolutely. It was pretty dirty. If it gets too full of dirt, oil won't get through. And that can destroy an engine. Really, the oil filter needs to be replaced at every oil change.
Customer: Fair enough.
Mechanic: Of course, I can put a note on your account if you want us to check with you next time.
Customer: I'd appreciate that, thanks.
Mechanic: No problem. I'll update it right now.

Unit 9

Customer (F): Hi, I'm Tina Matthews. I'm here to pick up my car.
Mechanic (M): Hi Ms. Matthews. It looks like we're almost done with the repairs.
Customer: So you found out why I was failing my emissions test?
Mechanic: We sure did. It turned out to be your PCV valve.
Customer: Sorry, what's that?
Mechanic: It controls the amount of gases returning to the cylinder to be burned. Basically, it's a device used to lower your emissions.
Customer: Oh, okay. So did you just have to clean it out?
Mechanic: Well, we unclogged it and ran the diagnostics again, but there wasn't much improvement.
Customer: Oh that's not good.
Mechanic: It's okay. We just installed a new valve. They're running the tests one more time.
Customer: Ok. I hope the new valve does the trick. I really need my car to pass the emissions test.
Mechanic: Don't worry. I'm sure the new valve will improve your emissions significantly.

Unit 10

Mechanic (M): Harrison Auto, Charlie speaking.
Customer (F): Hi, this is Carol Billings. I got a message from you about my car.
Mechanic: Oh, Ms. Billings. Well, I've got some bad news for you. Your car overheated because the cooling system failed.

Audioscripts

Customer: Oh no. What happened?

Mechanic: Well, there are two problems. The big one is that the radiator is cracked.

Customer: Really? That's bad, isn't it?

Mechanic: Unfortunately, yeah. We'll need to replace it.

Customer: I see. I guess if that's what has to happen, okay. Now, you said there were two problems?

Mechanic: That's right. Actually, it's this other problem that caused the damage to the radiator. It's your water pump.

Customer: It's broken, too?

Mechanic: Not exactly. It's just got a very bad leak. It looks like it let out most of your coolant, and that's when your radiator cracked.

Customer: So what do you recommend?

Mechanic: I'd just replace it. It's easy, and you don't want to risk it failing you again.

Customer: Okay, then let's do it.

Unit 11

Manager (F): Good morning, Tim. What are we looking at today?

Mechanic (M): Morning, Terry. It looks like a busy morning, but the afternoon will be slow.

Manager: When's the first appointment?

Mechanic: It's at nine.

Manager: Okay, and what are we doing for them?

Mechanic: That one's an ABS sensor replacement.

Manager: That's not too bad. What's after that?

Mechanic: At ten, a busted brake line is being towed in. We're replacing the whole thing.

Manager: How did the line break? Was it an accident?

Mechanic: No. The driver suspects that salt and water damaged it this winter.

Manager: That will do it. So is that it for the morning?

Mechanic: Yeah, that's all. We don't have another one until this afternoon at two.

Manager: Will that one take long?

Mechanic: It shouldn't take too long. They just need new brake pads.

Manager: Sounds good. Let me know when the first appointment gets here.

Unit 12

Mechanic (M): Hi Mrs. Smith. What brings you to the garage today?

Customer (F): I'm having trouble steering my car.

Mechanic: That sounds serious. Tell me more.

Customer: When I try to turn it, the steering wheel is really stiff.

Mechanic: So it takes a lot of work to turn it?

Customer: Oh yes. I have to use all my strength.

Mechanic: Have you noticed any stains under the car?

Customer: You know, I saw a spot on the garage floor this morning.

Mechanic: Well, you could be out of fluid. When there's no fluid, it's really hard to turn the steering wheel. I'd bet you have a leak.

Customer: Is that hard to fix?

Mechanic: It's usually not a big deal. But let's get your car on the lift and have a look.

Unit 13

Mechanic 1 (F): Dave, I'm stumped. I'm not sure what's wrong with the car. I think it's the suspension.

Mechanic 2 (M): Well, what's wrong with it?

Mechanic 1: The customer said it shakes a lot on bumpy roads.

Mechanic 2: Okay, I'd agree that it's a suspension problem. So let's go step-by-step. What kind of suspension does it have?

Mechanic 1: It's a Macpherson strut system.

Mechanic 2: All right, then you need to start by checking the coil springs and shock absorbers.

Mechanic 1: I can do that. What else should I check?

Mechanic 2: Next, you should take a look at the ball joints.

Mechanic 1: Oh, I did that. They look fine.

Mechanic 2: Okay, good. That's one less thing to worry about.

Mechanic 1: Should I check the torsion bar?

Mechanic 2: Absolutely. The roads around here are really rough on every part of the suspension.

Mechanic 1: Great, thanks. I'll check out the coil springs now.

Unit 14

Mechanic (F): Cal's Repair Shop, Edith speaking.

Owner (M): Hi, Edith. Listen, my car is making some strange noises. I was wondering if your shop could look at it.

Mechanic: Sure. Can you tell me what's happening?

Owner: Well, whenever I shift gears, I hear a loud grinding noise.

Mechanic: Hmm, sounds like a transmission system problem. Is it a manual or an automatic transmission?

Owner: It's a manual transmission.

Mechanic: And how old is your car?

Owner: It's about 7 years old.

Mechanic: Well, it's possible for the synchronizers to get worn out in that time. I suspect that's the problem.

Owner: I was afraid of that. So, can I bring it in this weekend?

Mechanic: Actually, I'd recommend that you bring it in right away. These things can get worse in a hurry.

Owner: Got it. What's a good time?

Mechanic: How about two this afternoon?

Owner: Sure, see you then.

Unit 15

Mechanic (M): Alan's Auto, how can I help you?

Customer (F): Hi, this is Cynthia Robinson. I got a message to call about my car.

Mechanic: Oh, hi. Yes, well, I've figured out what was causing that knocking sound.

Customer: Oh, good. What was it?

Mechanic: It's just like I thought. It's the CV joint.

Customer: I see. Did I cause the damage somehow?

Mechanic: Probably not. The CV boot was cracked, but that can happen after a lot of driving.

Customer: Okay. So can you fix it? Or will you have to replace it?

Mechanic: It's beyond repair, so we'll have to replace it. Trying to fix it just wouldn't be safe. But I need your approval to do a little more work.

Customer: More? What else has to be done?

Mechanic: Well, it's better if we replace the whole shaft, not just the joint. It will be safer that way.

Customer: I guess that's what matters most. Go ahead and replace it all.

Unit 1

1 Suggested Answers

- 1 Copper wires are used because copper is a conductor.
- 2 AC is one type of electrical current.

2 1 F 2 F 3 T

3 1 H 3 A 5 B 7 D
2 G 4 C 6 E 8 F

4 Currents: AC, DC

Inhibitors: insulator, resistance

Measurements: voltage, ohm, amp

5 Suggested Answer

Students demonstrate what they have learned during the course by taking a practical exam when they finish the course.

6 1 A 2 A

- 7 1 explain the difference between
- 2 measures the electrical resistance
- 3 voltage
- 4 measures the power
- 5 is different to
- 6 allows electricity to flow
- 7 the opposite of conductivity
- 8 in one direction

8 Suggested Answer

A: All right. We'll start with terminology. List three types of electrical measurements.

B: Okay. Three types are voltage, ohm, and amp.

A: Good. Explain the difference between an ohm and an amp.

B: An ohm measures the electrical resistance in something, while an amp measures the strength of an electrical flow.

A: That's correct. Can you explain what voltage is?

B: Voltage. Voltage measures the power in a current, right?

A: Correct. Tell me how an insulator is different to a conductor.

B: A conductor allows electricity to flow, and an insulator stops electricity from flowing.

A: Good. So what property does an insulator exhibit?

B: I know this, it's the opposite of conductivity. Oh! It's resistance.

A: Exactly. Insulators are forms of electrical resistance. Now, which type of current flows in two directions?

B: That's DC.

A: Actually, that's incorrect.

B: Oh, it's AC. I always mix that up!

9 Suggested Answer

The basic electrical measurements are voltage, ohms and amps. Voltage measures the power in a current, ohms measure how much resistance there is in a circuit or electrical component, and amps is the measure of how much current is flowing. Conductors are materials that allow electricity to flow easily, while insulators are ones that stop electricity from flowing easily (meaning they have high resistance). There are two different types of currents: AC and DC. DC flows in one direction around a circuit, whereas AC changes direction across a circuit.

Unit 2

1 Suggested Answers

- 1 Side cutting pliers and channel lock pliers are two tools used when working with electricity.
- 2 Blade connectors, spade terminals, and ring terminals are used.

2 1 T 2 T 3 F

3 1 D 3 A 5 H 7 F
2 B 4 E 6 C 8 G

- 4 1 spade terminal 5 crimper
- 2 anti-static wristband 6 continuity detector
- 3 wire stripper 7 fish tape
- 4 soldering iron

5 Suggested Answer

To have an interview applicants must pass a skills and safety examination.

6 1 A 2 D

- 7 1 design and size 4 in terms of
- 2 more accurate 5 comes in at
- 3 nice large screen 6 hoping to spend

8 Suggested Answer

A: I want something simple.

B: How about this one? It's the MM-42, one of our best-selling models.

A: I like the design and size, but how does it perform?

B: It's one of the most accurate multimeters available.

A: It does have a nice large screen.

B: Did you know that it is backlit to make it easier to read in low light situations? It also can store data.

A: That sounds great. So, what am I looking at in terms of price?

B: This one comes in at \$199.99.

A: That's a bit more than I was hoping to spend.

9 Suggested Answer

The MM-42 multimeter is one of our best-selling models. It has been around for a number of years and is trusted by electricians all over the world. It has a modern design and a compact size that allows you to take it with you and use it wherever you want. It is also one of the most accurate multimeters available and comes with a large, backlit LCD screen which makes it easy to see your measurements, even in low light situations! All this comes at a bargain price of \$199.99. At this price the MM-42 simply cannot be beaten.

Unit 3

1 Suggested Answers

- 1 Some parts of a motorcycle are its swingarm, its clutch lever, its handlebars, fork tubes and wheels.
- 2 A side stand keeps a motorcycle upright when it isn't being used.

2 1 C 2 C 3 B

- | | |
|------------------|---------------|
| 3 1 A motorcycle | B frame |
| 2 A side stand | B Handlebars |
| 3 A shaft drive | B chain drive |
| 4 A fuel tank | B belt drive |

- 4 **Front Suspension:** fork tube, triple tree
Rear Suspension: shock absorber, swingarm
Controls: clutch lever, throttle, shift lever

5 Suggested Answer

The X43 is aimed at new motorcycle riders.

6 1 T 2 T 3 F

- | | |
|--------------------------|----------------------|
| 7 1 fork and front wheel | 5 rideable |
| 2 frame | 6 it's going to need |
| 3 fine-toothed comb | 7 Anything else |
| 4 cosmetic | |

8 Suggested Answer

B: The fork and front wheel are beyond repair.
A: No doubt about that.
B: But I think I can find a pretty cheap replacement.
A: OK. What about the frame?
B: I went over it with a fine-toothed comb and didn't find a thing.
A: Wow!

B: There was some damage, but it's cosmetic.

A: So do you think it's still rideable?

B: Definitely, but it'll need a lot of work. We'll also need to replace the rear wheel, brakes, and the swingarm.

A: That everything?

B: That's all I could find.

9 Suggested Answer

Customer name: Valeria Tsakova

Damaged parts: front fork, front wheel

New parts required: front forks, wheels, brakes, swingarm

Safe parts: frame, engine, drive shaft, fuel tank

Unit 4

1 Suggested Answers

- 1 A common problem is wear on different motorcycle parts.
- 2 Tire wear affects how a motorcycle reacts with the ground.

2 1 T 2 F 3 F

3 1 C 3 F 5 A 7 B
2 G 4 D 6 E

- | | |
|--------------------------|-------------------|
| 4 1 A Fuel contamination | B fuel stabilizer |
| 2 A stale gas | B float bowl |
| 3 A Chain wear | B tire wear |
| 4 A Sprocket teeth | B Chain guides |

5 Suggested Answer

A problem with chain tension is probably the most dangerous, as if a chain gives out while someone is riding they may lose control of their motorcycle.

6 1 C 2 A

- | | |
|-------------------|---------------------|
| 7 1 let me guess | 4 cleaning out |
| 2 clogged up | 5 second opinion on |
| 3 I don't suppose | 6 don't you think |

8 Suggested Answer

B: Oh, no, nothing major like that. He just hasn't ridden it for a couple of years and never really took care of it in that time.
A: I see. Let me guess. The float bowl is full of varnish.
B: Yeah. The carburetor is clogged up.
A: I suppose the battery is dead too.
B: Yeah, it is.
A: So besides cleaning out the carburetor and installing a battery, what do we have to do?

B: I'm glad you asked. I want your opinion on something.

A: Of course.

B: Look at the front tire. It's got a fair amount of wear, hasn't it?

A: Yeah, that's pretty bad.

B: Okay, I'm glad you agree. The customer didn't want to spend a lot of money. But I'm going to change this tire anyway.

9 Suggested Answer

Properly maintaining your motorcycle is the key to years of hassle-free pleasure riding. One of the simplest things to do is to keep your tires at the correct pressure, this will stop excessive wear that forces you to change them more often than is necessary. Chains must also be kept properly tensioned. This will stop them bending sprocket teeth (if it is too tight) or grinding against the chain guard (if it is too loose). Either of these things could lead to your chain giving out and possibly causing a nasty accident. If you are going to put your motorcycle into storage here are some tips. Add fuel stabilizers to the gas so that the float bowl of your carburetor doesn't get clogged with deposits of varnish from the tank. Make sure too, to fit a battery tender to maintain your charge. This is cheaper than having to buy a new battery and means your motorcycle will be ready to use whenever you need it.

Unit 5

1 Suggested Answers

- 1 A furnace or a central heat system that uses a boiler and radiators are some ways to heat a building.
- 2 A thermostat is used to change the temperature of a room or building.

2 1 C 2 D 3 C

3 1 E 3 F 5 C
2 A 4 B 6 D

4 1 repair 4 install
2 central heat 5 thermostat
3 boiler 6 oil-fired

5 Suggested Answer

Henson's repair and maintain all types of heating systems.

6 1 F 2 F 3 T

7 1 producing heat 4 worn out
2 turned it on 5 seem too bad
3 It could be 6 that's the problem

8 Suggested Answer

A: Well, Mr. Jenkins, your furnace is still producing heat, but it's definitely not working properly.

B: I thought so. It made such a strange noise when I turned it on. What's wrong with it?

A: I'm not sure what is causing that noise. It could be a couple of things.

B: What do you think it might be?

A: It could be the pump, or the boiler might just be worn out.

B: How serious is it?

A: If we're lucky, I'll just need to repair the pump.

B: Well, that doesn't seem too bad. What if it's the boiler?

A: You might have to replace the whole unit.

9 Suggested Answer

Description of problem: boiler makes a strange noise when turned on

Likely causes: this is likely to be caused by either a damaged pump or a worn out boiler

Unit 6

1 Suggested Answers

- 1 Poor ventilation can lead to pollutants being present in the air which are harmful and unpleasant.
- 2 A split system has parts which are located both indoors and outdoors.

2 1 F 2 T 3 T

3 1 air handler 4 ventilation
2 fan coil unit 5 humidity
3 package unit 6 split system

4 1 A air ducts B dampers
2 A pollutants B air quality
3 A filter B blower
4 A unit ventilator B mechanical exhaust

5 Suggested Answer

For areas with lots of water in the air the company recommends using a mechanical exhaust to reduce mold and odors.

6 1 B 2 D

- 7 1 up to today 4 new unit ventilator
2 First 5 as soon as possible
3 wrapped that up 6 cleaning the ducts

8 Suggested Answer

- A: An emergency call has come in, and I've got to find someone to take it. What are our mechanics up to today?
B: First, Andrea has an air conditioner installation at the new City Hall.
A: I thought she wrapped that up last week.
B: No, the new unit ventilator didn't arrive until yesterday.
A: Okay. They've been waiting all week, so we'd better install it as soon as possible. What else is there?
B: Well, Luke is cleaning the ducts over at the Flyer Building.
A: When is he supposed to finish? Maybe he can take the emergency call after.
B: He should be done by noon. But he also has to visit a house on 14th Street for an inspection.

9 Suggested Answer

Date: 3/10/12

Location: City Hall

Mechanic: Andrea

Description: install new air conditioner

Urgency: urgent. Client has been waiting for one week

Location: Flyer building

Mechanic: Luke

Description: duct cleaning

Urgency: non-urgent

Location: 14th Street

Mechanic: Luke

Description: inspection

Urgency: non-urgent

Unit 7

1 Suggested Answers

- 1 An air conditioner is used to provide cool air to a room or building.
- 2 People use a variety of cooling systems in my country. Air conditioners are probably the most common, but evaporative coolers are also very popular in some parts of the country. For food (and especially for business use), refrigerators, ice machines and walk-in coolers are used to keep it cool.

2 1 F 2 T 3 F

3 1 D 2 C 3 B 4 E 5 A

- 4 1 evaporative cooler 4 walk-in cooler
2 refrigerant 5 refrigerator
3 ice machine

5 Suggested Answer

Joe Z. couldn't afford to pay for an air conditioner.

6 1 C 2 C

- 7 1 leaking refrigerant 5 check the schedule
2 motor running 6 get someone out there
3 Not a peep 7 That'll work
4 I'd have to see it

8 Suggested Answer

B: A man from Hanson Mechanics said the air conditioner was leaking refrigerant. He said he took care of it, but whatever he did isn't working any more.

A: Is there any air coming out of the vents?

B: No air is coming out.

A: Can you hear the motor running?

B: Not a peep. The system is not working at all.

A: You definitely have big problems. I'd have to see it to tell you more.

B: Can you come in soon?

A: Let me check the schedule. It looks like we can get someone out there in about two hours. Does that work?

B: That'll work. Thanks so much.

9 Suggested Answer

The air conditioning equipment was completely dead. Apparently Hanson Mechanics sent someone out previously who said the unit was leaking refrigerant and that he fixed this. However, the unit stopped working again shortly after. In the end I discovered that the problem was with the condenser. I replaced it and the unit worked fine after this.

Unit 8

1 Suggested Answers

- 1 Some machines that are used in modern farming include planters and tillers, tractors, harvesters and balers.
- 2 Some tractors have four wheels, two at the back and front. Others have a continuous track that runs below two wheels.

2 1 B 2 B 3 D

- 3 1 D 3 B 5 F
2 A 4 C 6 E

- 4 1 A hydraulic pump B diagnostic equipment
2 A harvester B farmer
3 A service life B tractor

5 Suggested Answer

As well as vehicles farm mechanics also work on irrigation systems.

- 6 1 F 2 T 3 F

- 7 1 lots of experience 4 a variety of
2 did you do 5 machine manufacturers
3 worked on 6 where I learned

8 Suggested Answer

- A: Well, Doug, your application shows that you have lots of experience with farm equipment.
B: Yes, Ma'am. My last two jobs were on large commercial farms.
A: I see you recently worked for Farmtech Industries. What did you do there?
B: I was the chief mechanic for their northern branch. I primarily worked on tractors and harvesting equipment.
A: That's excellent. Our rental service rents out lots of those machines to small farms. Did you work on a variety of machine brands?
B: I'm familiar with the parts on all the major machine manufacturers.
A: Good. Do you have any experience with irrigation systems?
B: Farmtech actually sent me to a course on irrigation maintenance. That's also where I learned to use computerized diagnostic equipment.

9 Suggested Answer

Doug has lots of experience with farm equipment. His last two jobs were on large commercial farms. He recently worked for Farmtech Industries as a chief mechanic working on tractors and harvesting equipment. In addition he is familiar with irrigation systems, having attended a course on irrigation maintenance at Farmtech. Finally, he is also able to use computerized diagnostic equipment which allows him to do repairs more quickly.

Unit 9

1 Suggested Answers

- 1 Some types of jobs that require large equipment are construction work and demolition work.

Construction work requires large machines such as cranes and excavators and demolition work requires bulldozers and sometimes cranes.

- 2 Bulldozers, cranes, backhoes, and excavators are examples of machines used for large construction jobs.

- 2 1 C 2 B 3 B

- 3 1 paving machine 4 hydraulic shears
2 dismantled 5 blade
3 bulldozer 6 backhoe

- 4 1 reassemble 4 grader 7 excavator
2 on-site 5 crane
3 ripper 6 analyze

5 Suggested Answer

Knowing how to safely operate and repair hydraulic shears would be a useful non-essential skill when applying for a job at D&D Demolition.

- 6 1 F 2 T 3 F

- 7 1 did you start 4 What's taking
2 it'll be ready 5 this bulldozer
3 day or two 6 I had to

8 Suggested Answer

- A: Hi Joanna. Did you start on that ripper for the 18th Avenue job?
B: Not yet, Bob. It's on my list for this week.
A: When do you think it'll be ready to use?
B: I probably won't get to it for the next day or two.
A: We really need that machine back on the job. They can't even get the engine to start. What's taking so long?
B: I'm working on this bulldozer. They need it right away over at the Daker job.
A: You've had that bulldozer for a week now. What's wrong with it?
B: There's serious damage to the backhoe. I couldn't repair it, so I had to replace it.
A: You're telling me that it's taken a week to replace the backhoe?
B: Of course not. But the engine needed work, too, and I just received the part from the warehouse.

9 Suggested Answer

Machine type(s): bulldozer

Likely Problem: damaged backhoe, replacement part for engine

Likely completion time: 2 days

Machine type(s): bulldozer
Likely problem: damaged ripper, faulty engine
Likely completion time: 3 days

Unit 10

1 Suggested Answers

- 1 MIG welders and stick welders are two types of welder.
- 2 A welding helmet protects a worker's face and head while they are working.

2 1 F 2 T 3 F

3 1 B 3 A 5 E
2 C 4 D 6 F

- | | |
|----------------|------------------|
| 4 1 torch | 4 wire feeder |
| 2 collision | 5 Welding |
| 3 stick welder | 6 welding helmet |

5 Suggested Answer

It leaves little residual heat and no sharp burs.

6 1 A 2 A

- | | |
|-------------------------|----------------------|
| 7 1 thinking of getting | 5 we could use a |
| 2 brought this about | 6 good job |
| 3 more business | 7 small stick welder |
| 4 I hear you | |

8 Suggested Answer

- A: I'm thinking of getting some new welding equipment.
B: Really? I like the idea, but what brought this about?
A: We're sending too many collision repair jobs across town. More welding capability would mean more business.
B: I hear you. What kind of welders are you considering?
A: I think we could use a new MIG welder for the main bay, a Stockton.
B: Those do a good job. And they're easier to use than the TIGs.
A: Well, we'll still have the old TIG. And I'm thinking of a small stick welder too.
B: That will be handy. You'll have to get some new hoods, too.
A: Yep. Welding helmets, respirators, gloves, they have a package deal on all the safety equipment.

9 Suggested Answer

Request for new welding equipment
The following items of new welding equipment are

needed: one new Stockton MIG welder, one small stick welder

The following items of safety items are also required: welding helmets, respirators, gloves

These items are needed to generate more business. Currently, most collision repair jobs are being sent across town. Doing this work in-house will generate much needed income for the company. The safety equipment is needed to ensure our workers' safety while operating this new machinery.

Unit 11

1 Suggested Answers

- 1 A frame is the main structure of a car; all other components are connected to it.
- 2 Screwdrivers, drills, and pliers are some tools which can be kept on a tool board.

2 1 A 2 B 3 D

3 Tools to determine proper alignment

mechanical measurement system
electronic measurement system
laser measurement system

Tools to raise vehicles

frame rack
alignment lift

Tools to hang objects

tool board
hook

- | | |
|------------------|-------------------------------|
| 4 1 A frame | B alignment |
| 2 A clamp | B manufacturer specifications |
| 3 A power puller | B wheel aligner |

5 Suggested Answer

FRAME REPAIR have been in business for over thirty years.

6 1 F 2 F 3 F

- 7 1 money is pretty tight
- 2 as long as you know
- 3 have to do anything
- 4 which one would you go with
- 5 electronic system
- 6 laser system

8 Suggested Answer

- B: I've heard that electronic or laser systems are better than mechanical ones.
A: It's true. If your budget can afford one, it's worth looking into an electronic or laser system.

- B: What's the difference?
 A: The laser technology is the most accurate. But it's also the most expensive.
 B: I don't have a lot of money. Will both systems work on any vehicle?
 A: Yes, as long as you know the vehicle manufacturer specifications.
 B: Okay. What about maintenance?
 A: You just have to clean the laser system.
 B: What about the electronic system?
 A: You just have to change the batteries occasionally.
 B: Hmm. So which one do you recommend?
 A: In your situation? The electronic system. It's more accurate than a mechanical system but costs less than the laser system.

9 Suggested Answer

Measurement system

Mechanical: requires some expertise to use, relatively accurate, cheap

Electronic: very accurate, relatively easy to use, medium cost

Laser: extremely accurate, very easy to use and maintain, expensive

Unit 12

1 Suggested Answers

- The main reason for repainting a vehicle (or part of a vehicle) is that the paintwork has been damaged in an accident. The outside of the car could also rust.
- A car is repainted in a spray booth.

2 1 F 2 T 3 F

- | | |
|-----------------|-------------|
| 3 1 refinishing | 5 accident |
| 2 spray booth | 6 overspray |
| 3 primer | 7 dent |
| 4 smooth | |

- | | | |
|----------|-------------|---------------|
| 4 1 rust | 3 sand | 5 body filler |
| 2 paint | 4 spray gun | 6 degreaser |

5 Suggested Answer

The most expensive product used was the Fire Engine Red paint.

6 1 B 2 C

- | | |
|---------------------------|------------------------|
| 7 1 knock out those dents | 5 first, I need you to |
| 2 Why not just | 6 remove the panels |
| 3 might as well | 7 wear a ventilator |
| 4 take a lot of | |

8 Suggested Answer

- A: You're going to knock out those dents and repaint the whole car.
 B: Okay. But we're repainting the whole thing? Why not just the damaged panels?
 A: Apparently, the customer wants to paint it red. He decided if we'll be painting anyway, he might as well take care of it now.
 B: That's going to take a lot of paint.
 A: It sure is. I want you to use spray booth number three. First, I need you to knock out those dents.
 B: Do you think I'll have to remove the panels?
 A: Probably. Once you're done, use the sander to remove the old paint from the entire vehicle.
 B: Will do.
 A: And be sure to wear a ventilator. You don't want to be inhaling that paint dust.
 B: All right. Then should I apply the primer?
 A: Yes. But don't forget to put masking on the wheels and bumpers first.

9 Suggested Answer

The body panels were removed from the damaged vehicle and the dents were knocked out of them. After that the sander was used to remove the paint from the entire vehicle. Masking was applied to the wheels and bumpers and then the primer was applied to the whole vehicle. This was then allowed to dry and the vehicle was moved into spray booth number three and completely repainted red.

Unit 13

1 Suggested Answers

- Hybrid cars are powered by two power sources; an internal combustion engine and an electric motor.
- Hybrid cars are increasingly popular in my country. There are now roughly two million hybrid cars in the US and this figure is likely to grow.

2 1 A 2 D 3 B

3 1 A 2 B 3 B 4 A

- 1 plug-in hybrid
- 2 lithium ion battery
- 3 regenerative braking system
- 4 two-mode hybrid

5 Suggested Answer

To improve hybrid vehicles the industry must invest to create more powerful and effective hybrid technologies.

6 1 T 2 T 3 F

- 7 1 two-mode hybrid 4 plug-in hybrid
2 electric motor 5 don't need to
3 on the highway 6 mostly with

8 Suggested Answer

- B: I've heard about the two-mode hybrids that you can plug in at home.
A: Actually, that's not correct. What you are referring to is called a plug-in hybrid.
B: Ok, what's a two-mode hybrid then?
A: Its engine and electric motor work together to increase efficiency at high speeds.
B: Interesting. I didn't know that. I just thought hybrids ran on gasoline when driving on the highway.
A: Not the new two-mode hybrids.
B: Hmm. What about plug-in hybrids?
A: Their key selling point is that you can charge the battery by plugging it in.
B: So you don't have to use any gas?
A: That depends on how much you drive. I've heard of some drivers getting around town mostly with the electric motor.

9 Suggested Answer

There are several types of hybrid cars on the market. The first generation of successful hybrids were called parallel hybrids. They had an internal combustion engine that could work alongside the electric motor, making them reliable for commuting and even long distance trips. Modern two-mode hybrids again have electric motors and gas engines, but are more efficient at higher speeds than older models as the two work together. Plug-in hybrids are similar but it is possible to charge their battery by plugging it in.

Unit 14

1 Suggested Answers

- 1 Electric cars are powered by using a charging dock to supply electricity to the car.
2 People are still unsure about electric cars. They realize they are better for the environment but some people think they are not totally reliable. They are also more expensive than gasoline cars.

2 1 T 2 F 3 F

3 1 E 2 B 3 C 4 A 5 D

- 4 1 miles per charge 4 charging dock
2 charging port 5 electric car
3 photovoltaic

5 Suggested Answer

The car's top speed is 90 MPH.

6 1 C 2 B

- 7 1 worked on one 5 runs out
2 Why's that 6 popping up left and right
3 on a charge 7 pay close attention
4 that's not true 8 the charging system

8 Suggested Answer

- B: I've never worked on an electric car. I'm not sure I like those cars.
A: Why's that? I mean, they're really good for the environment.
B: Yeah, but you can only drive, what, fifty miles on a charge?
A: Actually, that's not true. This model has a 100 mile range.
B: Hmm. But still, there's nowhere to charge them if it runs out.
A: That's changing - charging stations are being built everywhere nowadays.
B: I guess so. We'll be seeing more of them in the shop, won't we?
A: For sure. That's why you need to pay close attention today.
B: Will do. So, what's the problem with this one?
A: It's not holding a charge. We have to check the charging system.
B: Okay. Where do we start?
A: Let's start at the charging port. Let me show you where it is.

9 Suggested Answer

Get your new Earthsaver car today and save the Earth! Our latest electric car produces zero emissions when you drive it and even the backup system is charged by solar panels on the roof. It has a range of 100 miles per charge so you will always be able to reach your destination. Best of all the onboard charger means you can power up at home simply by plugging into the charging dock, for a cost of less than \$2 per charge. We are also developing a network of charging stations so that you will be able to charge up your Earthsaver wherever you are. Come and test drive the Earthsaver today and experience the future of motoring.

Unit 15

1 Suggested Answers

- 1 Problems like smoke, vapor, and grease can affect a car.
- 2 A car's engine emits smoke when there is a problem.

2 1 F 2 T 3 F

3 1 B 3 G 5 A 7 D
2 F 4 C 6 H 8 E

- | | |
|----------------|----------------|
| 4 1 DLC | 5 OBD system |
| 2 rattle | 6 Condensation |
| 3 slippery | 7 burning |
| 4 troubleshoot | |

5 Suggested Answer

An engine with the wrong mixture of gas and air will give off black smoke.

6 1 C 2 A

- 7 1 engine smokes
- 2 light or dark
- 3 burning transmission fluid
- 4 And is there
- 5 really acrid
- 6 engine that's burning oil on your hands

8 Suggested Answer

B: Okay. What do we know?
A: The engine smokes after it's been on for a while.
B: Okay, is the smoke light or dark?
A: It's pretty light.
B: Hmm. If it's light gray, it might be burning transmission fluid. But if it's more of a blue color, it could be oil.
A: It's definitely more of a blue.
B: Is there a smell?
A: Yeah, it's really acrid, too.
B: I'd say that the engine is burning oil then.

9 Suggested Answer

The car's engine has a problem. The engine gives off a light blue smoke after it's been on for a while. It also gives off an acrid smell. All this suggests that the engine is burning oil. This is probably caused by an oil leak somewhere that needs to be plugged.

Unit 1

Teacher (F): Hello, Mark. Are you ready for your oral exam?

Student (M): I sure am. I've been studying all day.

Teacher: All right. We'll start with terminology. List three types of electrical measurements.

Student: Okay. Three types are voltage, ohm, and amp.

Teacher: Good. Now, explain the difference between an ohm and an amp.

Student: Hmm, well, an ohm measures the electrical resistance in something, while an amp measures the strength of an electrical flow.

Teacher: That's correct. So what's voltage then?

Student: Voltage. Voltage measures the power in a current, right?

Teacher: Correct. Very good. Now, tell me how an insulator is different to a conductor.

Student: Okay. A conductor allows electricity to flow, and an insulator stops electricity from flowing.

Teacher: Good. So what property does an insulator exhibit?

Student: I know this, it's the opposite of conductivity. Oh! It's resistance.

Teacher: Exactly. Insulators are forms of electrical resistance. Now, which type of current only flows in one direction?

Student: That's AC.

Teacher: Actually, that's incorrect.

Student: Oh, it's DC. I always mix that up!

Unit 2

Salesperson (F): Hi, is there anything I can help you with?

Mechanic (M): Yeah actually I'm looking for a multimeter that has a continuity detector function.

Salesperson: We actually have a few models that might interest you.

Mechanic: I just need something simple.

Salesperson: How about this one? It's the KT-59, one of our best-selling models.

Mechanic: I like the design and size, but how does it perform?

Salesperson: Few multimeters are more accurate.

Mechanic: It has a nice large screen.

Salesperson: Did you know that it is backlit to make it easier to read in low light situations? It also can store data.

Mechanic: Wow, those are great features. So, what am I looking at in terms of price?

Salesperson: This one comes in at \$165.99.

Mechanic: That's a bit more than I was hoping to spend.

Salesperson: I have other models that cost less, but then you are going to sacrifice accuracy.

Mechanic: Let me think about it.

Salesperson: One more thing you might want to know is that it has a five year warranty. No other model can beat that.

Mechanic: Good enough. I'll take it.

Unit 3

Mechanic 1 (F): Have you looked at that wrecked motorcycle yet?

Mechanic 2 (M): Yeah, it must have been a bad accident. It's lucky the rider wasn't hurt.

Mechanic 1: You can say that again.

Mechanic 2: Well, I made a complete list of all the damage I found.

Mechanic 1: So what do you think? Can we salvage it?

Mechanic 2: That depends. The fork and front wheel are beyond repair.

Mechanic 1: No doubt about that.

Mechanic 2: I think I could find a reasonably priced replacement.

Mechanic 1: OK. How about the frame?

Mechanic 2: I went over it with a fine-toothed comb and didn't find a single crack.

Mechanic 1: That's incredible!

Mechanic 2: There was some damage, but it's cosmetic.

Mechanic 1: So do you think it's still rideable?

Mechanic 2: Sure, but it's going to need a lot of work. We'll also need to replace both wheels, the brakes, and the swingarm.

Mechanic 1: Anything else?

Mechanic 2: That's all I could find.

Mechanic 1: All right, I'll call the owner to see what he wants to do.

Unit 4

Mechanic 1 (F): Morning, Mike. I saw a motorcycle in the shop. When did that come in?

Mechanic 2 (M): Hi, Meg. A customer brought it in last night for a bunch of repairs.

Mechanic 1: A bunch? What, was it in an accident or something?

Mechanic 2: Oh, no, nothing major like that. He just hasn't ridden it for months and never really took care of it in that time.

Mechanic 1: I see. So, let me guess. The float bowl is full of varnish.

Mechanic 2: Yeah, the whole carburetor is clogged up.

Mechanic 1: I don't suppose he was using a battery tender, either.

Mechanic 2: Nope, he wasn't.

Mechanic 1: So besides cleaning out the carburetor and installing a battery, what do we have to do?

Mechanic 2: Well, I'm glad you asked. I want a second opinion on something.

Audioscripts

Mechanic 1: Of course.

Mechanic 2: Look at the front tire. It's got a fair amount of wear, don't you think?

Mechanic 1: Yeah, that's pretty bad.

Mechanic 2: Okay, I'm glad you agree. The customer didn't want to spend a lot of money. But I'm going to change this tire anyway.

Unit 5

Mechanic (M): Well, Ms. Davis, your furnace is still producing heat, but there's definitely something wrong with it.

Customer (F): I thought so. It made such a strange noise when I turned it on. What's wrong with it?

Mechanic: I'm not quite sure what's causing that noise. It could be a couple of things.

Customer: Really? What do you think it might be?

Mechanic: The pump might be faulty, or the boiler might just be worn out.

Customer: Could it be serious?

Mechanic: If we're lucky, I'll just need to repair the pump.

Customer: Well, that doesn't seem too bad. What if it's the boiler?

Mechanic: If that's the problem, you might have to replace the whole unit.

Customer: That sounds expensive. How much would it cost?

Mechanic: Well, first we should figure out what the problem is. I'll need to perform a full inspection.

Customer: Please do take a look. I can't have it fail on me in the middle of winter.

Mechanic: Certainly, Ms. Davis. I'll get my tools.

Unit 6

Owner (M): Sandra, do you have the schedule for today?

Secretary (F): Yes, Al, it's right here. Why do you ask?

Owner: An emergency call has come in, and I've got to find someone to take it. So, what are our mechanics up to today?

Secretary: First, Carl has an air conditioner installation at the new City Annex.

Owner: I thought he wrapped that up last week.

Secretary: No, the new unit ventilator didn't arrive until yesterday.

Owner: Okay. They've been waiting all week, so we'd better install it as soon as possible. What else is there?

Secretary: Well, Janet is cleaning the ducts over at the Packard Building.

Owner: When is she supposed to finish? Maybe she can take the emergency call after.

Secretary: She should be done by noon. But she also has to visit a house on 9th Avenue for an inspection.

Owner: What's the problem there?

Secretary: Apparently, the mechanical exhaust in the bathroom isn't working.

Owner: Give me the address. I'll take care of the inspection myself. We'll have Janet take the emergency call this afternoon.

Secretary: Got it. I'll make up a new schedule right away.

Unit 7

Mechanic: (M) Thanks for calling Billings Refrigeration.

Customer (F): Hi, this is Karen at the Soup Stand restaurant. We really need your help.

Mechanic: What seems to be the problem?

Customer: Our busy lunch rush will start soon, and our air conditioning system has stopped working. I'm afraid the customers may walk out due to the heat.

Mechanic: Well, we certainly don't want that. Is this the first time it's happened?

Customer: No, it happened last month. A man from Jackson Mechanics said the air conditioner was leaking refrigerant. He said he took care of it, but whatever he did isn't working any more.

Mechanic: Is air blowing out of the vents?

Customer: No air is coming out.

Mechanic: Can you hear the motor running?

Customer: Not a peep. The system is dead.

Mechanic: You definitely have big problems. I'd have to see it to tell you more.

Customer: Can you come in soon?

Mechanic: Let me check the schedule. It looks like we can get someone out there in about an hour. Does that work?

Customer: That'll work. Thanks so much.

Unit 8

Equipment dealer (M): Well, Pauline, your application shows that you have lots of experience with farm equipment.

Mechanic (F): Yes, Sir. My last three jobs were on large commercial farms.

Equipment dealer: I see you recently worked for Agropol Industries. What did you do there?

Mechanic: I was the head mechanic for the central branch. I primarily worked on tractors and harvesting equipment.

Equipment dealer: That's excellent. Our rental service rents out lots of those machines to small farms. Did you work on a variety of machine brands?

Mechanic: Yes, I'm familiar with the parts on all the major machine manufacturers.

Equipment dealer: Good. Do you have any experience with irrigation systems?

Mechanic: Agropol actually sent me to a course on irrigation maintenance. That's also where I learned to use computerized diagnostic equipment.

Equipment dealer: I'm glad to hear that. We need someone who already understands the latest systems. Are you willing to take further courses if needed?

Mechanic: Absolutely. I'm always eager to learn about new technology.

Equipment dealer: Well, thanks for coming in, Pauline. I'll call you later in the week.

Unit 9

Owner (F): Dave, did you start on that backhoe for the 12th Street job?

Mechanic (M): Not yet, Lisa. It's on my list for this week.

Owner: When do you think it'll be ready to use?

Mechanic: I'm not sure. I probably won't get to it for the next day or two.

Owner: We really need that machine back on the job. They can't start work without it. What's taking so long?

Mechanic: I'm working on this bulldozer. They need it right away over at the Simpson job.

Owner: You've had that bulldozer for a week now. What's wrong with it?

Mechanic: There's serious damage to the blade. I couldn't repair it, so I had to replace it.

Owner: You're telling me that it's taken a week to replace the blade?

Mechanic: No, of course not. But the engine needed work too, and I just received the part from the warehouse. I'm putting on the new blade now.

Owner: Well, I guess you shouldn't rush it. Make sure the blade is secure before you send the bulldozer back to the job.

Mechanic: I will. And I'll try to get to that backhoe this afternoon, but it'll probably be tomorrow morning.

Unit 10

Owner (F): Sam, I'd like your opinion on something.

Mechanic (M): Sure, what's up?

Owner: I'm thinking of getting some new welding equipment.

Mechanic: Really? I like the idea, but what brought this about?

Owner: We're sending too many collision repair jobs across town. More welding capability would mean more business.

Mechanic: I hear you. What kind of welders are you considering?

Owner: I think we could use a new TIG welder for the main bay, a Stockton.

Mechanic: Those do a good job. But they're harder to use than the MIGs.

Owner: Well, we'll still have the old MIG. And I'm thinking of a small stick welder too.

Mechanic: That will be handy. Of course, you'll have to get some new safety gear too.

Owner: Yep. Welding helmets, respirators, gloves, they have a package deal on all the safety equipment.

Mechanic: That's good. So when are you going to place the order?

Owner: Well, I wanted to see what you thought, first. But since you agree, I guess I'll do it right now.

Unit 11

Supplier (F): Frame Repair Equipment Supply, how can I help you today?

Mechanic (M): Hello, I'm looking to purchase some frame repair equipment. But I could use some more information on your systems.

Supplier: Sure. What can I tell you?

Mechanic: I've always used mechanical systems. But I hear that the electronic ones are faster and easier to use.

Supplier: It's true. If your budget can afford one, it's worth looking into an electronic or laser system.

Mechanic: What's the difference?

Supplier: Laser technology is the most accurate. But it's also the most expensive.

Mechanic: Well, money is pretty tight. Will both systems work for any vehicle?

Supplier: Yes, as long as you know the vehicle manufacturer specifications.

Mechanic: Okay. Now, what about maintenance?

Supplier: With the laser system, you don't have to do anything but clean it.

Mechanic: And the electronic system?

Supplier: You just have to change the batteries occasionally.

Mechanic: Hmm. So which one would you go with?

Supplier: In your situation? The electronic system. It's more accurate than a mechanical system, for a lower price than the laser system.

Unit 12

Mechanic 1 (M): Sheila, I'm assigning you to do the refinishing job on the CXV that came in yesterday.

Mechanic 2 (F): The one with the dented driver-side panels?

Mechanic 1: That's right. You're going to knock out those dents and repaint the whole car.

Mechanic 2: Okay. But we're repainting the whole thing? Why not just the damaged panels?

Mechanic 1: Apparently, the customer wants to paint it white. He decided if we'll be painting anyway, he might as well take care of it now.

Mechanic 2: That's going to take a lot of paint.

Mechanic 1: It sure is. I want you to use spray booth number one. But first, I need you to knock out those dents.

Audioscripts

Mechanic 2: Do you think I'll have to remove the panels?

Mechanic 1: Probably. Once you're done, use the sander to remove the old paint from the entire vehicle.

Mechanic 2: Will do.

Mechanic 1: And be sure to wear a ventilator. You don't want to be inhaling that paint dust.

Mechanic 2: All right. Then should I apply the primer?

Mechanic 1: Yes. But don't forget to put masking on the wheels and bumpers first.

Unit 13

Customer (F): Hi, I'd like to take a look at your hybrids.

Salesman (M): You've come to the right place. We sell several models. Is there one in particular that you're interested in?

Customer: I've heard about the two-mode hybrids that you can plug in at home.

Salesman: Actually, that's not correct. What you are referring to is called a plug-in hybrid.

Customer: Oh, then what's a two-mode hybrid?

Salesman: Its engine and electric motor work together to increase efficiency at high speeds.

Customer: Interesting. I didn't know that. I always thought hybrids just ran on gasoline when driving on the highway.

Salesman: Not the new two-mode hybrids.

Customer: Hmm. Now you mentioned the plug-in hybrid. What about those?

Salesman: Their key selling point is that you can charge the battery by plugging it in.

Customer: So you don't need to buy gas?

Salesman: That depends on how much you drive. I've heard of some drivers getting around town mostly with the electric motor.

Customer: Oh. Could I see a plug-in model?

Salesman: I'd love to show you one, but we just sold out this past weekend.

Customer: Oh no.

Salesman: I have some two-mode hybrid models. One of those might interest you.

Unit 14

Mechanic 1 (M): Hey, Sarah, check this out. A customer brought an electric car in for a service today.

Mechanic 2 (F): Oh, yeah? I've never worked on one. But I'm not sure I like those cars.

Mechanic 1: Why's that? I mean, they're really good for the environment.

Mechanic 2: Maybe. But you can only drive, what, fifty miles on a charge?

Mechanic 1: Actually, that's not true. This model has a 100 mile range.

Mechanic 2: Hmm. But still, there's nowhere to charge them if it runs out.

Mechanic 1: That's changing, though. Charging stations are popping up left and right.

Mechanic 2: Yeah, I guess that's true, too. I guess we'll be seeing more of them in the shop, won't we?

Mechanic 1: Absolutely. That's why you need to pay close attention today.

Mechanic 2: Will do. So, what's the problem with this one?

Mechanic 1: It's not holding a charge. We have to check the charging system.

Mechanic 2: Okay. Where do we start?

Mechanic 1: Let's start at the charging port. Let me show you where it is.

Unit 15

Mechanic 1 (M): Anne, do you have a minute?

Mechanic 2 (F): Yeah, sure. What's up?

Mechanic 1: Well, I'm just trying to figure out what's wrong with this car. I could use some help.

Mechanic 2: Have you plugged into the DLC?

Mechanic 1: I wish I could. But the owner said it's been busted for years.

Mechanic 2: Ah, too bad. So what do we know?

Mechanic 1: The engine smokes after it's been on for a while.

Mechanic 2: Okay, is the smoke light or dark?

Mechanic 1: It's pretty light.

Mechanic 2: Hmm. If it's light gray, it might be burning transmission fluid. But if it's more of a blue color, it could be oil.

Mechanic 1: It's definitely more of a blue.

Mechanic 2: And is there a smell?

Mechanic 1: Yeah, it's really acrid, too.

Mechanic 2: I'd say you've got an engine that's burning oil on your hands, then.

Mechanic 1: I suspected that was the problem, but I wasn't sure. I guess I need to try troubleshooting problems more often, instead of relying on the computer all the time.

Mechanics

Teacher's Book

Career Paths: Mechanics is a new educational resource for professional mechanics who want to improve their English communication in a work environment. Incorporating career-specific vocabulary and contexts, each unit offers step-by-step instruction that immerses students in the four key language components: reading, listening, speaking, and writing. **Career Paths: Mechanics** addresses topics including hand tools, power tools, auto systems, maintenance, and body repair.

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